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ABSTRACT

The handbook provides information to aid both regular and special education teachers in managing the curriculum for learning disabled students. Section I provides an introduction to the area of specific learning disabilities with chapters on the diagnostic process and on the distinction between slow learners and specific learning disabilities. Chapters in Section II cover the following areas (sample subtopics in parentheses): the learning disabilities teacher's role (dismissal criteria, continuum of services); developing school programs (materials used successfully in secondary learning disabilities programs, placement procedures); and writing an individual education program (long term goals, tips on reducing individualized education program writing time). A third section outlines seven specific areas (early childhood, reading, spelling, mathematics, handwriting, career/vocational education, spoken language) including a definition of each area, formal and informal diagnostic tests, and a listing of materials and references. Section IV provides information on the data gathering process and the analysis of individual and group statistics. A final section contains a listing of films, test publishers, addresses of test materials, relevant journals, professional organizations, and additional references. Sample forms, worksheets, and checklists are offered throughout the document. (SB)

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SPECIFIC LEARNING DISABILITIES: A HANDBOOK

DIVISION FOR EXCEPTIONAL CHILDREN
STATE DEPARTMENT OF PUBLIC INSTRUCTION
RALEIGH, NORTH CAROLINA

and

THE MID-EAST REGIONAL RESOURCE CENTER
GEORGE WASHINGTON UNIVERSITY
WASHINGTON, D.C.

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Recognition is given to the many North Carolina teachers and administrators who have given input into the development of this publication. Also recognition is given to the Mid-East Regional Resource Center for its cooperation.

FOREWORD

The field of specific learning disabilities has undergone significant changes since our initial programs were developed in 1969. There are over 1400 teachers of the learning disabled working in our public schools. We are striving to develop classes for the specific learning disabled through high school, an endeavor which is so crucial to maximizing the changes for our young people to be successful and to become independent, self-sufficient citizens.

We think this handbook is a means by which all teachers, both regular and special education, will be able to effectively manage the curriculum for each learning disabled youngster. It is our hope that by making this handbook available, we are moving another step closer toward consistent planning and intervention for our students with specific learning disabilities.

A. Craig Phillips
State Superintendent of Public Instruction

PREFACE

PURPOSE OF THE HANDBOOK

The field of specific learning disabilities continues to expand and grow at such a rapid pace that it is almost impossible for teachers and other professionals to keep up with the changing nature of diagnosis and intervention. Frequently, teachers do not have access to a set of materials or references that will help answer a pressing problem. This handbook should provide the framework by which teachers can pursue specific references and locate remedial programs in order to work with any individual student or with a group of students. It is our hope that this one reference will reduce the amount of time used in searching for this information and will enable the professional to maximize direct intervention time.

HOW TO USE THIS HANDBOOK

This handbook is divided into five sections:

- an introduction to the area of specific learning disabilities, including the definition utilized in North Carolina, and a discussion and differentiation of the slow learner from the learning disabled student
- the role of the learning disabilities teacher as it differs from that of consultant, including the appropriate educational setting for resource teacher, itinerant teacher, and self-contained teacher.
- the specific achievement areas, early childhood, and careers services, including a definition of each area, formal and informal diagnostic tests, and a listing of materials and references
- the data gathering process and the analysis of individual and group information, with basic statistical handling for the use of teachers.
- a listing of films, test publishers, addresses of test materials, relevant journals, professional organizations, and additional references.

We hope this handbook will become a valuable reference tool for the teacher, the administrator, or other professional persons working with specific learning disabilities students.

Theodore R. Drain, Director
Division for Exceptional Children

SECTION ONE

I. Specific Learning Disabilities: Diagnostic Process

SPECIFIC LEARNING DISABILITIES: THE DIAGNOSTIC PROCESS

I. Definition of Specific Learning Disabilities

* A pupil who has a specific learning disability is one who has a severe discrepancy between ability and achievement and has been determined by a multidisciplinary team not to be achieving commensurate with his/her age and ability levels. The lack of achievement is found when the pupil is provided with learning experiences appropriate for his/her age and ability levels in one or more of the following areas: oral expression, listening comprehension, written expression, basic reading skills, reading comprehension, mathematical calculation, or mathematical reasoning. The term does not include pupils whose severe discrepancy between ability and achievement is primarily the result of: a visual, hearing, or motor handicap; mental retardation; emotional disturbance; or environmental, cultural, or economic disadvantage.

II. The Diagnostic Process

* The diagnosis of a potential pupil with specific learning disabilities involves four essential steps: (1) Determining the pupil's current intellectual functioning. (2) The calculation of an expected grade level functioning based upon the results of an intelligence test. (3) Determining the amount of discrepancy from the expected academic performance and current academic performance. (4) Accounting for the achievement discrepancy by utilizing an item analysis to indicate specific processing or other deficits. All four steps have to be completed before the pupil can be described as having specific learning disabilities.

III. Step 1: What is the pupil's current intellectual functioning?

An individually administered, norm relevant intelligence test shall be administered to all potential specific learning disability pupils (Screening tests of intelligence are excluded from use, i.e., Slosson Intelligence Test and PPVT).

NOTE:* Underlinings reflect material taken directly from the Rules Governing Programs and Services for Children with Special Needs.

Step 2: The calculation of an expected grade level functioning based upon the results of an intelligence test.

(a) Obtain the intelligence test score. (IQ)
(b) Obtain the student's chronological age. (CA)
(c) Substitute that information in the following formula:

$$\frac{\text{IQ}}{100} \text{ X } (\text{C.A.} - 5.5) = \text{Expected Grade Achievement}$$

(d) Example: If the obtained IQ is 110 and the student's chronological age is 12-0:

$$\frac{110}{100} \text{ X } (12.0 - 5.5) = \text{Expected Grade Achievement}$$

$$(1.1)\ (6.5) = \text{Expected Grade Achievement}$$

$$7.15 = \text{Expected Grade Achievement}$$

Step 3: Determine the amount of discrepancy from the expected academic performance and current academic performance.

(a) Obtain current achievement test scores in any of the achievement areas under consideration

(b) Subtract the Expected Grade Achievement Score from the Current Grade Achievement Score

(c) Compare that difference score to the Degree of Severity Index utilizing the student's current grade placement.

(d) Define the pupil's achievement level as falling within the Mild, Moderate, or Severe level of discrepancy, as follows:

MILD:
- In Kindergarten: At Grade Level to 6 months behind
- In Grade 1: At Grade Level to 8 months behind
- In Grades 2 & 3: At Grade Level to 10 months behind
- In Grades 4-6: At Grade Level to 20 months behind
- In Grades 7-12: At Grade level to 30 months behind

MODERATE:
- In Kindergarten: 6 to 10 months behind
- In Grade 1: 8 to 15 months behind
- In Grades 2 & 3: 10 to 20 month behind
- In Grades 4-6: 20 to 30 months behind
- In Grades 7-12: 30 to 40 months behind

SEVERE:
- In Kindergarten: 10 or more months behind
- In Grade 1: 15 or more months behind
- In Grades 2 & 3: 20 or more months behind
- In Grades 4-6: 30 or more months behind
- In Grades 7-12: 40 or more months behind

(e) Example: Expected Grade Achievement is 7.15; Current performance in mathematics calculation is 4-2 based on a PIAT, WRAT, or Key Math.

4.2 - 7.15 = -2.95 Difference Score (as there are 10 months to a school year, 2.95 = 29.5 months). Subject falls at the borderline between moderate and severe discrepancy.

(Current Grade Placement = 6)

Step 4: To account for the achievement discrepancy by utilizing an item analysis to indicate specific processing or other deficits.

A. How to Perform an Item Analysis

(1) Definition: An item analysis is a procedure by which patterns of strengths and weaknesses are determined on the basis of an examination of individual test items that make up the total test performed.

(2) Steps in Performing an Item Analysis:

(a) Have a copy of the answer sheet filled out based on the pupil's responses.

(b) Have a copy of the questions asked to the pupil.

(c) If the test items have been matched to objectives (such as was developed by American Guidance Service for the Key Math Test), have those available.

(d) By inspection, review the answer sheet to see if there is any clear pattern of strengths and weaknesses demonstrated.

(e) Match the objective or what the item was assessing with the items passed and the items failed. Caution: One test item does not equal a pattern. Use as a criterion two or more items reflecting the objective or type of question.

(f) Summarize the pattern of strengths and weaknesses in descriptive terms (i.e., can compute two-column addition, but not three-column).

B. To account for any significant achievement discrepancies, the evaluator needs to consider the following regarding both the interpretation of formal and informal psychoeducational information.

(1) Perform an item analysis for each test utilized in the evaluation.

(2) Describe a pattern of strengths and weaknesses based upon the item analyses.

(3) Develop hypotheses to account for the consistent pattern of strengths and weaknesses.

(a) These hypotheses may be descriptive (i.e., the pupil can complete two-column addition, but not three-column.

(b) These hypotheses may reflect underlying processes within a task or content area (i.e., the pupil does not consistently hear the ending sounds of words in a dictated spelling test).

The essential step is to examine the pattern of strengths and weaknesses and account for those areas of weakness based upon an analysis of the test. The LD specialist would, therefore, program for a pupil based upon the teaching of the task components, either separately or directly within a content area.

III. Other descriptions of exceptional children and their relationship to specific learning disabilities

(1) On the basis of IQ and other diagnostic data, pupils described as "educable mentally handicapped" shall not be included in the specific learning disability program.

(2) On the basis of psychological or psychiatric evaluation, pupils described as "emotionally disturbed" shall not be included in a specific learning disability program. However, those pupils described as having "secondary emotional disturbance" could be included in a specific learning disability program.

Primary emotional disturbance refers to those behaviors which are pervasive and continuous, which inhibit learning and are primarily the result of internal individual conditions (i.e., anxiety, depression, faulty personality development). Secondary emotional disturbance refers to those behaviors which develop as a result of attempts to cope with specific learning disabilities.

(3) Cultural, environmental, and economic disadvantage includes those conditions which deny stimulation, experience and educational opportunity to individual pupils. The primary learning difficulties of these pupils must not be attributed to a learning disability per se. While it is the responsibility of regular education to provide adequate compensatory programs for these pupils, they may be placed in a specific learning disability program if their difficulties are due to one or more specific learning disabilities as assessed by an appropriate educational evaluation. The description of a pupil as "culturally, environmentally, or economically disadvantaged" can be determined by interview, social history, application of socio-economic status scaling techniques, education of parents, or occupation of head of household.

(4) A pupil described as "Gifted and Talented" may be placed in learning disability programs provided that pupil evidences the specified achievement discrepancies and is, in fact, learning disabled.

(5) A visual handicapping condition exists when a pupil is partially sighted to totally blind. An auditory handicapping condition exists when a pupil has partial hearing or is totally deaf. A motor handicapping condition exists when a pupil has significant motor impairments that interfere with either learning or performance. The primary learning difficulties of these pupils cannot be attributed to specific learning disabilities per se.

IV. Composition of the Multidisciplinary Team

* The multidisciplinary team shall consist of, but not be limited to:

(1) the child's regular teacher; or

if the child does not have a regular teacher, a regular classroom teacher qualified to teach a child of his/her age; or

for a child less than school age, an individual certified by the State Education Agency to teach a child of his/her age; and

(2) a person certified or trained in the area of learning disabilities; and

(3) at least one person qualified by the State Department of Public Instruction to condict individual diagnostic examinations of children, such as a school psychologist, speech-language pathologist, remedial reading teacher or SLD teacher.

At least one team member other than the child's regular teacher should observe the child's academic performance in a regular classroom setting. In the case of pre-kindergarten, a team member should observe the child in an environment appropriate for a child of that age.

V. Major Responsibilities of the Multidisciplinary Team

* The major responsibilities of the Multidisciplinary Team are:

(1) to collect or aid in the compiling of all data relevant to the determination of eligibility;

(2) to appoint one member of the team (other than the student's regular teacher) to observe the pupil's performance in the regular classroom;

(3) to review all available data, including the observation data;

(4) to make a collective group decision about whether or not the pupil meets the eligibility criteria, based on all data presented;

(5) to write a report addressing all areas required in the procedures; and

(6) to sign the report (all group members) with individuals providing statements of concurrence or dissent from the decisions.

VI. The Specific Learning Disabilities Written Report

(1) The multidisciplinary team shall prepare a written report of the results of the evaluation.

* (2) Every pupil with learning disabilities shall have a written report consisting of the following:

    (a) whether the child has a specific learning disability;

    (b) the basis for making the determination;

    (c) the relevant behavior noted during the observation of the child;

    (d) the relationship of that behavior to the child's academic functioning;

    (e) the educationally relevant medical findings, if any;

(f) whether there is a severe discrepancy between achievement and ability which is not correctable without special education and related services; and

(g) the determination of the team concerning the effects of environmental, cultural, or economic disadvantage.

(3) Each team member should certify in writing whether the report reflects his or her conclusion. If it does not reflect his or her conclusion, the team member should submit a separate statement presenting his or her conclusions.

VII. Dismissal Criteria and Model for Learning Disabilities Program

As there is a continuum of severity for specific learning disability pupils, it follows that the level of severity has a specific optimal educational setting. For example, those pupils with mild SLD problems could be served in the regular classroom or mainstream classroom with consultant support; moderate SLD problems in the resource room setting; and severe SLD problems in the self-contained program.

As pupils demonstrate their academic progress and reduce their achievement discrepancy from the most recent classroom placement, they can then be placed in the least restrictive educational setting (self-contained, resource, mainstream, consultant, or regular classroom) based on achievement test scores. Thus, pupils can move from a self-contained classroom setting, to a resource room, to receiving support in the regular classroom prior to independent functioning in the regular classroom. Some pupils may function in different settings depending on their achievement discrepancies in specific academic areas. For example, a pupil may receive consultant support in arithmetic in the regular classroom and receive resource room help in reading comprehension.

II. COMMENTS ON THE DISTINCTION BETWEEN SLOW LEARNERS AND SPECIFIC LEARNING DISABILITIES

Kirk (1962) states that the "slow learning child is not considered mentally retarded because he is capable of achieving a moderate degree of academic success even though at a slower rate than the average child. He is educated in the regular class without special provisions except an adaptation of the regular class program to fit his slower learning ability. At the adult level he is usually self-supporting, independent and socially adjusted." Havighurst (1960) says that "slow learners have an IQ between 75-90, as does approximately 20% of the average population." Weaver (1977) states that the "slow learner" whose IQ ranges from 75-90 is sometimes referred to as the dull child. It might well be said that he is at present the "forgotten" child...the slow learner has been left in the regular classroom to compete with children of average or above average ability. Slow learners do learn, but at their own rate. They are capable of learning much, but the learning process is slow. Slow learning is a mental condition which is usually dated from birth or an early age."

Kough and DeHaan (1955) list the following identifying characteristics of the slow learner:

1. Is unable to think abstractly or to handle symbolic material.
2. Is unable to understand and carry through your directions or assignments.
3. Lacks the so-called "common-sense" and reasoning level of the group.
4. Is unable to understand complex game rules.
5. Is slow in all areas: academic, social, emotional, and physical.
6. Breaks rules of conduct or of games and is often unaware of it.
7. Is unable to work independently.
8. Is easily confused.
9. Has a short interest and attention span.
10. Is unable, voluntarily, to concentrate.
11. Finds it extremely difficult, if not impossible, to keep up with the class on academic work.
12. Is behind normal grade achievement in school.

Kough and DeHaan conclude that the "slow learner" is different from their more normal counterparts both quantitatively and qualitatively. Because of his limited ability to do abstract reasoning and make generalizations, the slow learner tends to learn largely through imitation. Therefore, the slow learner should be provided the kind of classroom in which much imitation is possible. If they can work with children of varied abilities, this can be done.

Kephart (1971), in his book, "The Slow Learner in the Classroom" takes a strong physiological-developmental point of view in describing the slow learner as "one in whom progress through these stages of development has either broken down or is noticeably delayed. If progress appears to be normal but slow in its course, the condition is usually associated with borderline mental retardation." Kephart goes on to say that in the process of educating the slow learner, the problem for the teacher is to determine where in the process of development (Innate Stage, Processing, Perceptual-Motor, Match, Figure-Ground, Movement Control, Systematic Exploretism, Perception, Intersensory Integration) the child has broken down, and then through the teaching process restore the course of development. In order to make the determination of where the child is in his/her developmental progression, someone will have to conduct some very careful observation of the child's behavior and his/her method of attack in problem solving. "When development is only delayed and is not complicated by the disruption resulting from neurological disturbance, the teaching problem is to supply experiences which will enhance development. Such a child behaves in a perfectly normal and predictable fashion except that his behavior is appropriate for a child of a lower chronological age."

In summary then, slow learners are defined across authors as persons who are functioning within the 75 to 90 IQ range, and who exhibit basically normal, yet slower development when compared to more "average" developing persons. Their characteristics indicate a difficulty in learning and they are generally behind in their current grade level placement. It is important to note that slow learners are slow in a number of areas and not just academics. It is also evident that the slow learner presents a similar picture to the category of exceptional children defined as specific learning disabilities. However, there are significant differences. These differences are as follows:

1. The IQ of students with specific learning disabilities historically reflects functioning at or above the average range of ability (85 IQ and up). When specific learning disability pupils evidence an IQ between 75 and 90, it is generally due to one or more specific learning difficulties or disabilities, which cause the lowered intellectual functioning.

2. While the slow learner has developed more slowly, but consistently in a wide variety of areas, the student with learning disabilities generally does not come to the attention of parents or the school until that student enters school. Further, a learning disabled student's pattern of development is more typically normal especially in one or more areas of academic functioning. There is data to support that learning disabled students can develop their weakness in line with their current grade level or move beyond it (based upon the severity of the problem).

3. Students with specific learning disabilities evidence a disability which needs the attention of special education and related services in order to be corrected. The slow learner does not have a specific disability as such but is performing in line with his/her ability. Slow learners are limited by their intellectual endowment which effects both rate of learning and final outcome.

4. Students with specific learning disabilities should be served through special education programs while students described as slow learners should be served in the regular classroom by classroom teachers with supportive consultative help on environmental curriculum modifications.

5. It is illegal to label a child as handicapped when he/she isn't handicapped. The slow learner is not a handicapping condition in either federal or state law. Thefore, to place a slow learner in a learning disability program commits an illegal act. The potential resulting stigma of being labeled as "learning disabled" and "handicapped" needs also to be considered in the placement process.

Comment:

The basic problem that lends confusion to this area of differential diagnosis is the difficulty of differentiating slow learners from specific learning disability pupils. As long as this differentiation is not adequately handled, persons who are slow learnes will continue to be placed inappropriately in learning disability programs. The net effect is to overpopulate the learning disability programs with slow learners who do not belong there, which in turn forces limited programs to exclude those appropriate learning disabled students from participation in these special programs. Regular education has to "own up" to its responsibility for educating the slow learner while special education has to share its responsibility for educating the learning disabled student with regular education. The more accurate the diagnosis, the more specific intervention will have its beneficial effect on those for whom it was designed to help.

Considerations in Making a Differential Diagnosis:

1. Obtain a family history or other background information. As complete information as possible on basic family history, birth history, developmental milestones, and relevant medical history will be essential to help make an accurate diagnosis. Explore slow developing areas, especially those that are quite discrepant from the expected norm for that student.

2. Obtain an individual IQ evaluation (preferably a WISC-R or Binet) and report the data in terms of scaled scores or developmental ages (mental ages). When the alternative to a psychological evaluation is utilized, and the student scores in the 75-85 IQ range on the Slosson Intelligence Test and Peabody Picture Vocabulary Test when averaged together, a WISC-R should then be administered to obtain a more accurate picture of the of the student's abilities.

3. Review the student's school history as to achievement scores, grades, teacher comments, and especially reading performance. Look for the consistency in scores, especially in math and reading.

4. Complete an educational evaluation focusing upon achievement, visual-motor skills, and language skills. Develop an item by item analysis based upon recurring patterns of errors and strengths. Develop hypotheses to account for those patterns of weaknesses.

5. After determining that the pupil evidences a disability based on a pattern of strengths and weaknesses from the item analyses, ask the following questions: Does the pupil need special education and related services to correct such a disability? The question to be answered by the evaluation is whether or not the diagnosed condition is in need of correction or is uncorrectable.

6. Is there any data to support the notion that this is at least an average youngster who by virtue of his learning problems, seems to score at these low levels on norm-references or criterion referenced tests?

7. Caution: Severely impaired specific learning disability pupils can easily be confused with the slow learner. Age, onset of the problem, and the severity of the problem (how far from current grade level) are important determiners of establishing a differential diagnosis. Do not forget that the student with learning disabilities will evidence a great many functions and abilities reflecting at least average development.

Comment:

It is important to remember that slow learners should not be placed in specific learning disability programs simply because there is no program available to meet their immediate needs. Potential learning problems due to being a slow learner should be screened as early as possible in the initial school experience for each student. On the basis of that screening, students should be considered for further evaluation or educational programming in line with their needs. Specific learning disability programs cannot be everything to all people.

References:

Newell Kephart, The Slow Learner in the Classroom, Charles E. Merrill Publishing Co., Columbus, Ohio, 1971, p. 43.

Samuel Kirk, Educating Exceptional Children, Houghton-Mifflin Co., Boston, Mass. 1962, pp. 85-86.

Jack Kough and Robert Detlean, Teacher's Guidance Handbook, Vol. 1, Identifying Children with Special Needs, Science Research Associates, Inc. Chicago, Illinois, 1955, pp. 69-72.

Frank B. Weaver, Helping Slow Learners and Undereducated Adults, Class National Publishing Co., Brentwood, MD, 1971, pp. 1-4.

SECTION TWO

I. Role of the Learning Disabilities Teacher

II. Developing Secondary School Programs

I. Role of the Specific Learning Disabilities Teacher

A. Teacher-Classroom Models: Overall Function of an LD Teacher

The learning disabilities teacher performs three major functions: teacher, diagnostician and educational consultant. The primary responsibility of the LD teacher is to facilitate learning for children who may be mildly, moderately or severely involved in terms of specific learning problems. The LD teacher should be a specialist with demonstrable skills in the areas of educational diagnosis, curriculum design, teaching strategies for deficit skills and consultation.

Prior to the beginning of the remedial program, the learning disabilities teacher must identify and describe desired behaviors and specify through a prescription the interventions planned to bring about these behaviors (Individual Education Program). Cooperative planning of these prescriptions with teachers in regular instruction is absolutely necessary. Planning should be designed to reinforce students' strengths while remediating weaknesses.

While remedial efforts may involve the use of game formats, complete program packages, changes in assignments and pacing, the specific learning disabilities teacher should emphasize the transfer and generalization of learning from the special program to the regular classroom. Without an appropriate emphasis on the latter, it is doubtful that the learning disability pupil will evidence sufficient gain to function independently when returned to the classroom in a least restrictive environmental setting.

The curriculum for an LD pupil is the same as that for a regular classroom pupil. The LD pupil may be working at a lower grade curriculum level than the regular student. The major change for the LD pupil is in instruction, not in curriculum.

Survival skills should become the focus and major curriculum for the student with specific learning disabilities at the secondary level who is functioning far below grade level. The responsibility of teaching content area material is assumed by the regular classroom teacher; therefore, the regular class teacher needs sufficient support services through consultation. The regular class teacher and LD teacher must cooperatively plan, modify, and adapt course requirements and delivery to allow for the academic deficits of LD students. The LD teacher must often act as an advocate for LD students within the secondary setting in scheduling, helping regular class teachers understand expectancy levels and output modes for test taking.

The learning disabilities teacher and the regular classroom teacher, along with other educational professionals involved in the remedial process, must communicate regularly. It is recommended that the learning disabilities teachers spends from one-fourth to one-third of his/her time in consultation to facilitate the transfer and generalization of learning across educational settings. The regular classroom teacher should also be allowed the time to follow through on the communication process.

Learning disabilities teachers must be able to collect, organize and interpret data. They must be able to use this data with a cooperative interdisciplinary team to plan an educational program to aid the student's development and communicate this information effectively to the appropriate school personnel to effect learning. The pupil's needs should define who is on the team (i.e., the LD resource teacher, regular class teacher or teachers, principal, school psychologist, any other support personnel involved with the pupil's program and the parents. The effectiveness of the plan should be measured not only by how well the student does while with the LD teacher, but also by the degree of success the student exhibits relative to his learning experiences in the regular program.

Specific learning disabilities teachers should have requisite skills in a number of specific areas to justify the concept of "specialist." The following is a brief listing of the basic competencies expected in North Carolina:

I. Identification

A. The teacher will be able to identify characteristics that discriminate an EMR, ED, or slow learner from an LD pupil.
B. The teacher will be able to recognize and define the typical characteristics of an LD pupil.
C. The teacher will be able to discriminate between mild, moderate or severe LD conditions.
D. The teacher will be able to identify traits that discriminate an LD pupil from a remedial reading pupil.

II. Evaluation

A. The teacher should be able to administer, score and interpret evaluation instruments that assess the areas of
   1. Sensory-Motor Functioning
   2. Achievement
   3. Personality-Social Functioning

B. The teacher should be familiar with the following psychological evaluation techniques insofar as he/she can interpret the tests results in a meaningful way and apply the results to curriculum choices.

   1. Stanford-Binet Intelligence Scale, Form L-M
   2. Wechsler Preschool and Primary Scale of Intelligence
   3. Wechsler Intelligence Scale for Children, Form R
   4. Wechsler Adult Intelligence Scale

C. The teacher should be able to determine, through analysis of the tasks involved, the skill deficiencies as exhibited by a pupil's performances on any test or subtest that has been administered to the pupil.

III. Intervention

A. The teacher should be able to distinguish between the necessity for behavior management and/or academic remediation with any pupil.

B. The teacher should be able to construct a behavioral program identifying the problem, consequences, and reinforcement of any specific behavioral problem.

C. The teacher should be familiar with the major academic remedial programs available in the following areas:
   1. Reading
   2. Spelling
   3. Arithmetic
   4. Fine and Gross Motor Skills
   5. Writing

D. The teacher should be able to construct a specific individualized program representing -
   1. Specific academic problem area
   2. Short term goals with time frame expectancy
   3. Long terms goals with time frame expectancy
   4. Materials to be utilized to reach individual goals

E. The teacher will be able to implement the above program in a systematic manner.

F. The teacher will be able to determine the scope and sequence of skills accompanying the textbooks that are used in her/his school.

G. The teacher will be able to develop oral communication skills of her/his pupils as well as written communication skills.

H. The teacher will be able to use the techniques of teaching needed for long term memory and short term retention.

I. The teacher will be able to recognize when a pupil has progressed sufficiently to proceed from one program service model to another (i.e., self-contained to resource, resource to consultation).

J. Teachers will be able to plan and conduct family counseling activities.

K. Teachers will be able to serve as consultants to regular class teachers and principals in developing appropriate learning activities for LD students who are mainstreamed for part of most of their school day.

L. The teacher will be able to initiate and maintain open lines of communication with regular class teachers and the principal.

M. The teacher will be able to initiate and maintain rapport with teachers and principals to act as an advocate and as a change agent on behalf of the LD students.

N. The teacher will be able to utilize selective interviewing techniques.

O. The teacher will be able to use tact and courtesy in modifying the regular educator's attitudes and reluctance to mainstream the LD student.

P. The teacher will be able to utilize a variety of staff development techniques through effective explanations during school based committee meetings, demonstration of teaching skills and dissemination of information.

B. Program Service-Differentiated SLD Programs

The School Based Committee has the responsibility of recommending special educational programming based on relevant assessment including educational and behavioral data for each learning disabled pupil.

The three types of programs (self-contained, resource, and consultant) to be specified are treated as if they are mutually exclusive, independent teaching functions. When LEA's choose to combine teaching functions (i.e., consultant model and resource model), there should be adequate adjustment for the realistic number of children that should be served under the combined teaching functions.

1. Regular Classroom with Supportive Help to the Classroom Teacher

This structure allows the learning disabilities teacher to intervene educationally with individuals who can remain in the regular classroom environment. These individuals are not seriously impaired and have specific deficits which are not generalized to their total learning performance (program load, up to 40 students per learning disability teacher). The LD teacher as a consultant is a facilitator, not an implementor, with the responsibility of conveying the best practical skills to the regular class teacher.

a. The consultant/learning disabilities teacher suggests remedial strategies and procedures which would appear in the IEP. This enables the regular classroom teacher to incorporate these suggestions in teaching identified students. The learning disabilities teacher shall also provide diagnostic or prescriptive information to the regular classroom teacher. This prototype demands that the regular classroom teacher implement educational as well as remedial goals and objectives, with supportive materials and direction from the learning disabilities teacher.

b. Learning disabilities specialists and regular classroom teachers are jointly responsible for monitoring each student's progress, keeping records, etc. It is imperative that time be provided for both teachers to accomplish this function.
c. The Administrative Placement Committee will determine the appropriate assistance each student is to receive as is included in the IEP.
d. Some students may receive direct instructional assistance from the learning disabilities teacher within the classroom.
e. This prototype is designed only for LD children with mild disabilities.

B. Resource Room

These individuals require specific remediation via the learning disabilities teacher, but can function primarily in a regular classroom program (program load, up to 25 students).

Understandings Inherent in the Implementation of a Resource Room Model

1. Learning disabilities teachers provide direct services to students who are assigned to them by Administrative Placement Committee. The students are served in both the regular instructional program and the specialized resource room.
2. Individual and group instructional possibilities are provided.
3. Students may be assigned to the resource room for specific amounts of time according to their special needs, not to exceed half of each school day.
4. The resource room prototype is intended primarily for children with moderate learning disabilities.
5. The resource room teacher, along with the regular classroom teacher, teaches the student in a specifically diagnosed area of learning. The student's educational and remedial needs may require one or more supportive services from other educational professionals (i.e., speech and hearing consultant, reading consultant, etc.).
6. Learning disabilities professionals and regular classroom teachers are responsible for monitoring each student's progress, keeping records, etc. The LD teacher should provide assistance to the regular classroom teacher to assure an optimum educational program for the LD student.

3. A Full-time Special Class

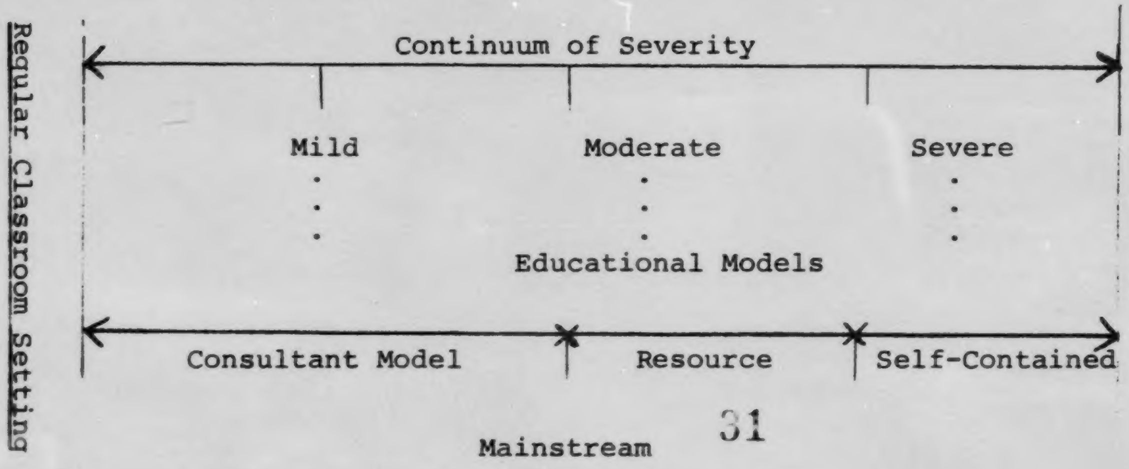
This type of class deals with individuals who require a structured learning environment with limited interaction with regular classroom students. The LD teacher is responsible for all educational planning and implementation. Initially, it is a self-contained situation, but should also have components which eventually allow individuals to be assigned mainstream activities with supportive help.

a. Each self-contained classroom should be assigned a full-time instructional aide.
b. The learning disabilities professional should be assigned a program load of not more than 10 students (14 students if there is a full-time aide).
c. The self-contained program provides full-time services to students with severe learning disabilities.
d. With the small class enrollment there is more opportunity for one-to-one or small group instruction.

C. Dismissal Criteria and Model for Learning Disabilities Program

As there is a continuum of severity for specific learning disability pupils, it follows that the level of severity has a specific optimal educational setting. For example, those pupils with mild SLD problems could be served in the regular classroom or mainstream classroom with consultant support; moderate SLD problems in the resource room setting; and severe SLD problems in the self-contained program.

As pupils demonstrate their academic progress and reduce their achievement discrepancy from the most recent classroom placement, they can then be placed in the least restrictive educational setting (self-contained, resource, mainstream, consultant, or regular classroom) based on achievement test scores. Thus, pupils can move from a self-contained classroom setting, to a resource room, to receiving support in the regular classroom prior to independent functioning in the regular classroom. Some pupils may function in different settings depending on their achievement discrepancies in specific academic areas. For example, a pupil may receive consultant support in arithmetic in the regular classroom and receive resource room help in spelling.



D. Continuum of Services, K-12

To be in compliance with P.L. 94-142 and its assurance of a "free and appropriate public education," North Carolina is providing services from kindergarten through grade 12. The continuum of services are termed as elementary and secondary programming. Elementary includes K-6 and secondary 7-12.

On the elementary level the major emphasis in the programming for LD students is in the remediation of the language arts and mathematics areas. Under the umbrella of language arts, developing basic skills in reading, spelling, written and oral language are the focus. Pre-readiness and readiness skill remediation in reading and arithmetic are included if the deficit areas are so indicated.

The secondary level has a broader emphasis. Programming should include three options: basic competency skills in reading and mathematics, and program alternatives including life skills for post high school living and career education.

II. Developing Secondary School Programs

The following series of handouts has been pulled from "A Handbook: Development of Program Alternatives for Educating Secondary Learning Disabled Students." We gratefully acknowledge the work of Shirley Moorehead and Dianna Meeth who are the Title VI-G Project Staff from the Ohio Division of Special Education, who put together their excellent Handbook.

These materials are meant to be suggested beginnings for each local unit to adapt to meet their own individual needs. You should feel free to accept those parts that make sense to you and reject those parts that don't apply. In general, there are six steps that local units should consider with regard to developing a learning center approach for high school learning disability students:

1. Develop a proposal.

2. Hire a certified learning disabilities teacher, secure a standard size classroom and order materials and equipment.

3. Identify the school team and indicate their responsibilities.

4. Develop an efficient referral and placement process.

5. Establish class size and compute teacher/pupil contact hours.

6. Evaluate pupil progress and track the results of program services.

If these steps are followed sequentially, you will be able to develop an outstanding learning center program at both the junior high and senior high level.

A. TESTS FOR HIGH SCHOOL LEARNING DISABILITIES PROGRAMS

These forms represent examples of the various forms of commercial assessment and/or standardized testing devices which could be used by the L.D. teacher to determine skill levels of the students.

1. Peabody Individual Achievement Test

   American Guidance Service, Inc.
   Publishers' Building
   Circle Pines, Minnesota 55014
   Complete kit $26.00

2. Woodcock Reading Mastery Tests

   American Guidance Service, Inc.
   Publishers' Building
   Circle Pines, Minnesota 55014
   Complete kit $18.00

3. Diagnosis-Math

   Science Research Associates
   259 East Erie Street
   Chicago, Illinois 60611
   Complete kit $ 72.50

4. Diagnosis-Reading

   Science Research Associates
   259 East Erie Street
   Chicago, Illinois 60611
   Complete kit $ 72.50

5. The Cooper-McGuire Diagnostic Word Analysis Test

   Croft Educational Services, Inc.
   100 Garfield Avenue
   New London, Connecticut 06320
   Complete kit $ 52.00

6. Continuous Progress in Spelling

   The Economy Company
   P. O. Box 25308
   1901 North Walnut
   Oklahoma City, Oklahoma 73125
   Complete kit $ 99.75

7. Base II Math

Media Research Associates
1735 23rd Street SE
Salem, Oregon 97302
Complete kit $48.00

8. Key Math Diagnostic Arithmetic Test

American Guidance Service, Inc.
Publishers' Building
Circle Pines, Minnesota 55014
Complete kit $21.00

9. The Hahnemann High School Behavioral Rating Scale

Hahnemann Community Mental Health/Mental Retardation Center
314 North Broad Street
Philadelphia, Pennsylvania 19102
Complete kit $5.50

B. SUGGESTED REFERENCE BOOKS

1. Farrald, Robert and Schamber, Richard, HANDBOOK I A MAINSTREAM APPROACH TO IDENTIFICATION ASSESSMENT AND AMELIORATION OF LEARNING DISABILITIES; Adapt Press, Sioux Falls, South Dakota, 1973.
2. Homme, Lloyd, HOW TO USE CONTINGENCY CONTRACTING; Research Press, Champagne, Illinois, 1970.
3. Krumboltz, Helen, and Krumboltz, John, CHANGING CHILDREN'S BEHAVIOR: Prentice Hall, Inc. Englewood Cliffs, New Jersey, 1972.
4. Madsen, Charles, and Madsen, Clifford, TEACHING/ DISCIPLINE; Allyn and Bacon, Inc. Boston, Mass., 1970.
5. Mager, Robert, F., PREPARING INSTRUCTIONAL OBJECTIVES; Fearon Publishers, Palo Alto, Ca., 1962.
6. Nemeth, Joseph and Shoemaker, Marjorie, CONTENT READING: PROCESS PRODUCT; Nemar Publishers, Bowling Green, Ohio, 1975.
7. Ohio Commission of Right to Read, TEEN READING; Division of Educational Redesign and Renewal, Columbus, Ohio.
8. Stephens, Thomas, M., DIRECTIVE TEACHING OF CHILDREN WITH LEARNING AND BEHAVIORAL DISORDERS; Charles E. Merrill Publishing Co., Columbus, Ohio, 1970.
9. Stephens, Thomas, M., IMPLEMENTING BEHAVIORAL APPROACHES IN ELEMENTARY AND SECONDARY SCHOOLS; Charles E. Merrill Publishing Co., Columbus, Ohio, 1975.

C. MATERIALS USED SUCCESSFULLY IN SECONDARY L.D. PROGRAMS

COMMUNICATION SKILLS

1. READING

a. Specific Skills Series

Barnell Loft, Limited
958 Church Street
Baldwin, N.Y. 11510

b. Wollensack Cassettes: Word Attack Skills

J. S. Latta, Inc.
P. O. Box 1276
Hunting, W. Va. 25715

c. Scholastic's Action Reading System
" Double Action
" Action Libraries
" Contact Series
" Scope/Skills
" Scope Visuals
" Reluctant Reader Libraries
" Pattern for Reading

Scholastic Book Services
904 Sylvan Avenue
Englewood Cliffs, New Jersey 07632

d. PAL Paperback Kit

Xerox Education Publications
245 Long Hill Road
Middletown, Conn. 06457

e. Reading Attainment

Grolier
Instructional Systems Division
845 Third Avenue
New York, New York 10022

f. Reading Incentives Language Program

Bowmar
622 Rodier Drive
Glendale Calif. 91201

g. Vocational Reading Series

Follett
1010 W. Washington Blvd.
Chicago, Ill. 60607

h. Edmark Reading Program (for nonreaders)

Edmark Association
13249 Northeys Way
Bellevue, Washington 98005

i. Individualized Reading Skills Improvement

Love Publishing Co.
6635 Villanova Place
Denver, Colorado 80222

j. Adult Reading Program
Right to Read Program Kits
10-Speed Racer

Bowmar
622 Rodier Drive
Glendale, Calif 91201

k. Challenge to Read Program

Children's Press
1224 W. Van Buren Street
Chicago, Ill 60607

l. Be Informed

New Readers Press
Publishing Division of Laubach Literacy, Inc.
Box 131
Syracuse, New York 13201

m. Adult Readings

Reader's Digest Educational Division
Pleasantville, New York 10570

n. Sound Foundation Kit

Developmental Learning Materials
7440 Natchez Avenue
Niles, Illinois 60648

o. Reader Development Bibliography

New Reader Press
Publishing Division of Lauback Literacy, Inc.
Box 131
Syracuse, New York 13210

p. Clues to Reading Progress

Educational Progress Corp.
Randolph, Wisconsin 53956

q. Play the Game

Bowmar
622 Rodier Drive
Glendale, California 91201

r. Contracts in Everyday Life

Mafex
111 Barron Avenue
Johnson, Pa. 15906

s. The Television You Watch

Follett
1010 W. Washington Blvd.
Chicago, Ill. 60607

t. Reading Practice Pad Skill Builders

Reader's Digest Educational Division
Pleasantville, New York 10570

u. The Point 31 Program

Reader's DigestEducational Division
Pleasantville, New York 10570

v. Wordpacers and Skillpacers Programs

Random House School Division
201 East 50 Street
New York, New York 10022

w. Imperial Aural Reading Lab

Imperial International Learning Corp.
Box 548
Kankall, Ill 60901

2. LANGUAGE

a. Continuous Progress in Spelling

The Economy Company
P. O. Box 25308
1901 N. Walnut
Oklahoma City, Oklahoma 73125

b. Language Instructional Activities

Love Publishing Co.
6635 Villanova Place
Denver, Colorado 80222

c. Learning to Listen

Dennison and Company, Inc.
Colfax Road
Minneapolis, Minnesota

d. The Job Box

Pacemaker Books, Fearon Publishers, Inc.
6 Davis Drive
Belmont, California 94002

e. Job Application Forms

Frank E. Richards Publishing Co., Inc.
Phoenix, New York 13135

f. Progressive Individualized English Grammar

Mafex
111 Barron Avenue
Johnson, Pa. 15906

3. MATHEMATICS

a. Mathematics Laboratories (orange/green kits)

McCormick/Mathers
300 Pike Street
Cincinnati, Ohio 45202

b. Mathematics for Everyday Living

Mafex Associates, Inc.
111 Barron Avenue
Johnson, Pa. 15906

c. Formula I Math Powerpacs

Imperial Instructional Programs
Box 548
Kankall, Illinois 60901

d. Arithmetic Instructional Activities (Books 1,2)

Love Publishing Co.
6635 Villanova Place
Denver, Colorado 80222

e. Individual Arithmetic Instruction

Love Publishing Co.
6635 Villanova Place
Denver, Colorado 80222

f. Math Mysteries
Puzzles, Games and Individual Activities

Hayes School Publishing Co.
321 Pinwood Avenue
Wilkensburg, Pa. 15221

g. Wheels and Deals: Buying Cars and Motorcycles

Mafex Associates, Inc.
111 Barron Avenue
Johnson, Pa. 15906

h. Individualized Mathematics Drill and Practice Kit CC

Random House, Inc.
201 East 50th Street
New York, New York 10022

i. Dimensions in Percents and Decimals

Singer - Society for Visual Education
Education Division
1345 Diversey Parkway
Chicago, Ill. 60614

j. Programmed Math Books 1-8

Sullivan Associates Program
McGraw Hill
Manchester Road
Manchester, Mo. 63011

4. SCIENCE MATERIALS

a. Edwig Science Bingo

Ideal
J. S. Latta, Inc.
School Instructional Aids
P. O. Box 1276
1502 4th Avenue
Huntington, W. Va. 25715

b. Science Pamphlets

Learn About Atoms
Learn About Molecules
Learn About Machines
Learn About Conversions

Xerox Publications
245 Long Hill Road
Middletown, Conn. 06457

c. Reader's Digest Science Readers

Reader's Digest Educational Division
Pleasantville, New York 10570

d. Microscope
Microscope Slides

Macmillan Science Co., Inc.
8200 South Hayne Avenue
Chicago, Ill. 60620

5. SOCIAL STUDIES

a. America's Progress - History

Mafex Associates
111 Barron Avenue
Johnson, Pa. 15906

b. Social Studies Strategies Box

Educational Insights
20435 South Tillman Avenue
Carson, California 90746

c. Reader's Digest Social Science Readers

Reader's Digest Educational Division
Pleasantville, New York 10570

6. TEACHER'S REFERENCE

a. Motivating Reluctant Learners

Love Publishing Company
6635 Villanova Place
Denver, Colorado 80222

b. Postive Classroom Performance

Love Publishing Company
6635 Villanova Place
Denver, Colorado 80222

D. DEVELOP REFERRAL AND PLACEMENT PROCESS

1. Screen and Identify L/D Students
    - a. Select Target Population
    - b. Screen Out Potential L/D Students
    - c. Perform:
        - 1. Student Interview
        - 2. Academic Assessment (Using standardized testing devices; criterion referenced assessments; and observational reports)
        - 3. Psychological Evaluation
        - 4. Medical Evaluation
    - d. Determine the Best Intervention Design

E. SYSTEMATIC ASSESSMENT

Systematic Assessment is based upon the premise that within the secondary system there exist trained, qualified staff to implement and evaluate an educational intervention program based upon proper assessment. This process guarantees procedurals safeguards as contained in P.L. 93-380 which includes:

A. Due Process Safeguards --- a plan for development and implementation:

1) Prior Notice to Parents Regarding Assessment and Placement
2) Impartial Hearing
3) Parental Opportunity to Examine Relevant Records
4) Prerogative for Independent Evaluation
5) Due Process Binding

B. Least Restrictive Alternative Doctrine

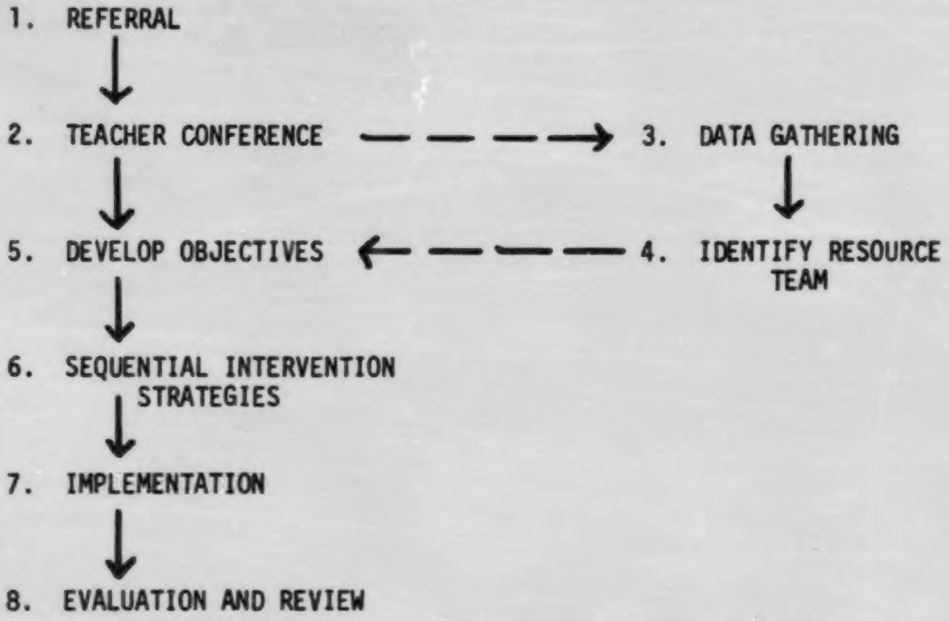
C. Non-Discriminatory Testing and Placement

Since the majority of referrals for special services come from the regular teacher to principal, psychologist, counselor etc. and many of those referred to not need a comprehensive child study review or evaluation, it is imperative that those receiving the referral have the skills to initiate the following with the regular teacher:

A. Develop objectives
B. Plan sequential intervention strategies
C. Implement a procedure
D. Design evaluation process
E. Review progress

Should the referral case indicate the need for additional data, those responsible can determine which additional data is necessary and the identification of the resource team that will gather the information. This additional data gathering by a resource team should not be interpreted to mean that the student will receive special services. The student could be recycled to the regular teacher with objectives, strategies, procedures, and an evaluation process.

The following flow chart will assist in clarifying the process.



1. REFERRAL
2. TEACHER CONFERENCE
3. DATA GATHERING
4. IDENTIFY RESOURCE TEAM
5. DEVELOP OBJECTIVES
6. SEQUENTIAL INTERVENTION STRATEGIES
7. IMPLEMENTATION
8. EVALUATION AND REVIEW

Steps 1 - 2 - 5 - 6 - 7 - 8 recycles the child back to the regular teacher. Steps 3 - 4 indicate the need for additional data with potential recycling back to regular teacher or placement in special services.

F. PLACEMENT PROCEDURES:

COMPOSITE EXAMPLE OF SELECTED SCHOOL DISTRICTS

1. Referrals may come from the regular class teachers, the counselor or other school personnel, the student, parents, other.
2. The referral will go to the principal, LD teacher, or the school counselor.
3. The counselor will obtain permission from the parents and students, when appropriate, for psychological and diagnostic testing.
4. The L.D. teacher will perform a student interview to determine the student's own educational goals.
5. All testing, psychological and educational, will be done at this time. Meanwhile, classroom observations of the student by the L.D. teacher, principal, counselor, or psychologist would be helpful in possible future staffings.
6. Following all evaluations, a staffing would be held with the "School Team." If a learning disability is diagnosed, available intervention alternatives should be considered, in accordance with the Least Restrictive Alternative Doctrine as defined in P.L. 93-380. These interventions could include:
   - a) Curriculum adjustment within the regular class;
   - b) Supplemental tutoring;
   - c) Alternative program placement (EMR, Work-Study, Vocational Education) or
   - d) L.D. program placement.
7. If L.D. placement is recommended, the student must meet placement criteria as outlined in State Standards and criteria established by the "School Team."
8. A medical report must be obtained.
9. Before entrance into the class the L.D. teacher should:

a) Perform a student interview.

b) Observe the student in the regular class.

c) Perform an academic and behavioral assessment.

d) Plan with the psychologist and L.D. supervisor specific long and short term teaching objectives. (Objectives should include criteria for phasing the student out of the program.)

10. The L.D. teacher will then work with the counselor, regular class teachers, and the student to set up an appropriate schedule for the student.

11. The L.D. program is implemented. The student remains with the program until his educational performance improves to a level commensurate with the predetermined terminal criteria.

12. Phasing back into the regular class should be determined by:
    a) Results of standardized testing.
    b) Mastery of skills.
    c) Changes in behavior measured on rating scale.
    d) Analysis of on-going class work and progress.
    e) Subjective and objective evaluations of both the L.D. and regular class teachers.
    f) Criterion referenced performance evaluation in the area of academic behaviors.

13. Services for a student from the L.D. program may be discontinued when the school team reviews the case and deems it necessary. Such cases might include:
    a) Extreme lack of cooperation on the part of the student;
    b) Extreme, unwarranted absence;

c) When a student has "plateaued" and the program can no longer benefit the student.

14. Conferences will be held between the L.D. teacher and the regular class teachers, and any other necessary staff personnel at the time of placement, during intervention and phasing to assure effective communication and to produce a quality educational program for the student.

G. CLASS SIZE AND COMPUTATION OF TEACHER/PUPIL CONTACT HOURS

1) Class size

   a. A Secondary LD Unit Should Serve a Projected Minimum of 15 Students in Its Total Program Enrollment. Approximately 4-10 Students Should Be Served During Each Class Period. (Note: Some Students Will Be Scheduled for Multiple Class Periods, Due to the Extent of Intervention Needed.)

   b. Teacher/Pupil Contact Hours are Projected as Being Equivalent to 160 Student Instructional Hours Per Week. The 160 Hours Should be Well Distributed Among the Alternative Services.

2) Computing Teacher/Pupil Contact Hours

SAMPLE SCHEDULE

AM	I.	SUPPLEMENTAL INSTRUCTION	# OF STUDENTS
1st period		Prerequisite Skills	4
2nd period		Minimum Fundamental	4
3rd period		Course Concepts	4

PM	II.	INTERVENTION INSTRUCTION	# OF STUDENTS
4th period		Required Basic Course	8-10
5th period		Required Basic Course	8-10

	III.	LD SPECIALIST'S PERIOD
6th period		-Obtaining Referals -Conducting Staffings -Preparing Lessons & Materials -Lending Supportive Services to Regular Education Teachers -Observing, Scheduling, Interviewing, Assessing Students -Meeting with Parents, Students, Teachers, or Other Staff Personnel

CONTACT HOURS FOR:			# OF HOURS
1st, 2nd, 3rd	periods	4+4+4x5 (days a wk.)	60
4th, 5th	periods	10+10x5 (days a wk.)	100
			160 hours
6th	period	160 hrs. + 5 or more hrs. per week of out-of-class time spent by LD specialist	+ 165 hours

SAMPLE SCHEDULE

AM	I. INTERVENTION INSTRUCTION	# OF STUDENTS
1st period	Required Basic Course	8
2nd period	Required Basic Course	8
3rd period	Required Basic Course	9

PM	II. LD SPECIALIST'S PERIOD
4th period	-Obtaining Referals -Conducting Staffings -Preparing Lessons and Materials -Lending Supportive Services to Regular Education Teachers -Observing, Scheduling, Interviewing -Assessing Students -Meeting with Parents, Students, Teachers, or other Staff Personnel

	III. SUPPLEMENTAL INSTRUCTION	# OF STUDENTS
5th period	Prerequisite Skills	3
6th period	Minimum Fundamental Course Concepts	3

CONTACT HOURS FOR:			# OF HOURS
1st, 2nd, 3rd	periods	8+8+9x5 (days a wk.)	125
4th	period	5 or more hrs. per wk.	5
5th, 6th	periods	3+3x5 (days a wk.)	30
			160 hours

H. EVALUATE PUPIL PROGRESS AND TRACK THE RESULTS OF PROGRAM SERVICES

1. Tracking and Evaluating. (See "Student Tracking Sheet" contained herein)
    a. Measure Pupil Performance by Utilizing:
        1. Criterion Referenced Assessments
        2. Pre-Interim-Post Standardized Tests
        3. Subjective Evaluations From Regular Class Teachers, School Administrators, Parents, Employers, Others.
        4. Student Feedback Based on the "Interview" to Evaluate if Original Goals Were Met.
        5. Long Range Academic and Behavioral Goals Determined at Staffings.
    b. Log the Placement Outcomes of the Students Who Have Received Services From the Learning Center:
        1. Regular Class Placement for the Majority of the School Day or on a Full Time Basis.
        2. Placement in a Work Study or Occupational Work Experience Program.
        3. Placement in Vocational or Technical Training Programs.
        4. Entrance in College or University Programs
        5. Direct Entrance to the Job Market
        6. Other

PROGRAM SCHEDULE - CONTACT HOURS

Class Periods	For each class period put students' initials, course, type of instruction - (S) supplementary (I) intervention	Contact Hours
1st Period time:		
2nd Period time:		
3rd Period time:		
4th Period time:		
5th Period time:		
6th Period time:		
7th Period time:		
8th Period time:		
9th Period time:		

I. SCHOOL REFERRAL FORM

I. Identifying Data

A. Student's name: ______________________

B. Grade: ____________ Age ____________

C. Person making referral: ______________

D. Date: ______________________

II. Please describe specific reason for referral: ________

____

____

III. What changes would you like to see in this student? ______

____

____

****

1) ☐ Referral screened with either principal and/or tutor-teacher.
Date: ________ Disposition: ______________________

____

____

2) ☐ Psychological referral made after parental and student
Date: ________ permission were obtained.

3) ☐ Staffing held.
Date: ________ Disposition: ______________________

____

____

4) ☐ Medical Report received.
Date: ________

5) ☐ Projected follow-up: ______________________
Date: ______________________________

____

____

J. STUDENT INTERVIEW FORM

The student interview is an important part of the screening process since it uncovers the student's own personal goals in relation to his/her educational program, and his/her plans after graduation. In the course of the interview he/she must decide what kinds of help he/she wants from the Learning Center toward the successful completion of these goals.

Upon the establishment of specific goals, an educational program may be formulated based on the student's expressed and assessed competencies, needs, and interests.

STUDENT INTERVIEW FORM

Name____Date__________Age________

Present Grade Level___________________________Interviewer______________

I. Current Course Schedule and Grades:

____

____

____

____

____

a. Based on the above, why does the student feel he/she needs the services of the program?

____

II. Work Experience:

a. Has the student ever had a job? How long? Any problems?

b. Would the student like to work, if he/she isn't presently employed? Any preference of jobs? Any skills?

c. What job would the student like to prepare himself/herself to do upon graduation?

III. Personal Goals

a. Does the student feel he/she gets along in school? With his/her friends? With teachers? What would he/she like to change?

b. Does the student feel satisfied with his/her accomplishments (grades, sports, clubs, activities, etc.) in school? What would he/she like to change?

c. Does the student feel like he/she is doing what he knows best? If not, why not?

IV. Educational Goals:

a. What does this student hope to accomplish in high school? (List his/her goals)

b. What courses are necessary to help the student accomplish this goal? (outline these courses on the next page)

FOUR YEAR PLAN (Course Requirements)

FRESHMAN YEAR:

SOPHOMORE YEAR:

JUNIOR YEAR:

SENIOR YEAR:

K. SCHOOL STAFFING REPORT

The placement of a student must be based on multi-factored and multi-sourced assessment. The staffing team provides the multiple sources of assessment input. The team may include the principal, LD supervisor, academic and vocational counselors, work study coordinator, regular class teacher, psychologist, Learning Center teacher, and regular class curriculum specialist.

This form is suggested for use in the initial, and subsequent staffings of a student. A copy of the report should be given to members of the school team who are responsible for any follow-up activities. The staffing team should be responsible for determining objectives, time-lines, and evaluation procedures for each student placed in the LD program.

Having so many different professionals on a staffing team helps to insure suitable, accurate placement for students; and effective, meaningful curriculum for them once placed. This will help to fulfill the Least Restrictive Alternative Doctrine of P.L. 93-380 (Section 613a) which states: "procedures to insure that, to the maximum extent appropriate, handicapped children, including children in public or private institutions or other care facilities, are educated with children who are not handicapped, and that special classes, separate schooling, or other removal of handicapped children from the regular education environment occurs only when the nature or severity of the handicap is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily."

SCHOOL STAFFING REPORT

I. Identifying Information

A. Student's name:________________________ Date:________________

B. Grade:________________________ Age:____________________

II. Testing Information

C. Learning Expectency Level:____________________________________

D. I. Q.:__________________Verbal____________Performance_________

E. Scores on Achievement Tests:

1) Reading:__________
2) Math:_____________
3) (Other):__________
List the tests used:

III. Information obtained from regular classroom teacher(s), or from other personnel who work directly with this student.

A. Academic:

B. Social:

60

IV. Classroom observation information (obtained from someone other than regular class teacher).

A. Academic:

B. Social:

V. Long range student objectives developed by the entire team and based on the total staffing input.

A. Academic:

B. Social:

L. LEARNING CENTER DIAGNOSTIC SERVICES REPORT

This report form is to be used by the L.D. teacher when he/she has a student enter the unit for diagnostic purposes. After the diagnostic period is completed, the L.D. teacher should request a staffing or hold a conference for the purpose of:

1. Recycling student back to the regular education teacher with specific intervention strategies.
2. Placement into the Learning Center unit for intervention or supplemental services.
3. Placement into other appropriate program alternatives.

C. Terminal Criteria:

VI. Members present and follow-up responsibilities:

1)

2)

3)

4)

5)

6)

VII. Date of next staffing:

LEARNING CENTER DIAGNOSTIC SERVICES REPORT

Report on____Date____________________

Dates Student came to the center for Diagnostic Services__________________________

Achievement test used:____________________Scores:______________________________

Student interview attached: Yes____ No___

Student/Teacher grade contract written: Yes___ No___

RESULTS OF ASSESSMENT: RECOMMENDATIONS:

READING:

MATH:

INTERVENTION STRATEGIES SUGGESTED FOR REGULAR CLASSROOM TEACHER:

MODALITY PREFERENCE:

SOCIAL/COPING SKILLS TO BE DEVELOPED: (INCLUDE RECOMMENDATIONS)

CLASSROOM OBSERVATION NOTES:

M. CONTRACT FOR GRADE

This contract form can be used intact, or redesigned to list the exact requirements for attainment of a specified "grade" for a course of study. This contract can be used with an L.D. student in a regular class so that he/she will better understand the expectations of his/her teacher, and the work and other specifics required of him/her in order to pass the course. This signed contract would then guide the L.D. teacher when providing direction and assistance to the student in that particular course. The L.D. teacher might also choose to use this contract with students who are receiving course grades from him/her, or when setting up an individualized study program for, or with, a student. The contract becomes a vital form of "concrete" communication between teacher and student.

Stated another way, the contract is an objective statement of consequence for the student. When he/she signs it, he/she agrees to accept responsibility for the end result - whether positive or negative. The contract is a viable means of promoting student-teacher cooperation, objectivity, and responsibility.

CONTRACT FOR GRADE

Name of Course ______________________________

Requirements for this course:

1. Readings in Text (List required chapters)
2. Outside Readings (List)
3. Homework Assignments (How often)
4. Term paper(s) (How many?) (Due?) (On what topics?)
5. Project (s) (Define)
6. Tests:
    - Daily
    - Weekly
    - End of Chapter
    - Midterm
    - Final
    - Other
7. Attendance
    - Number of Excused absences tolerated
    - Tardiness tolerated
8. Attitude/Behavior in Class (Expected) (Not tolerated)
9. Class Participation - Specify:
10. Other

(Dependant upon satisfactory completion of which of the above requirements?)

☐ Grade of A =

☐ Grade of B =

☐ Grade of C =

☐ Grade of D =

Date: ______________________

Signed (Student) ______________________

Signed (Teacher) ______________________

Signed (Witness) ______________________

N. STUDENT TRACKING SHEET

This sheet should be used with each student being served in any capacity in the LD program. It will serve as a recording device for the LD teacher. At the end of the year or at the time of a re-staffing, it will help to serve as an evaluation tool. The device will show: 1) how the student is getting along in the regular class (grade-wise), 2) whether or not any measurable gains have been made on standardized tests, which would also indicate target areas of weaknesses, and 3) whether the goals established at the initial staffing were achieved or not.

STUDENT TRACKING SHEET

School________________________________ Year in School____________________________

Student's Initials____________________ IQ__________________Test Used______________________

Indicate by S for supplementary and I for intervention the type of instruction being given the student.

Please record a copy of this student's schedule for each new grading period. Include those subject(s) he/she comes to the unit for help in.

Subject	S T	Hrs. per wk.	Grade

(Continue on reverse side if necessary)

STANDARDIZED TEST SCORES
(Include Dates Administered)

Reading	Math	Other
PRE TEST		
INTERIM TEST		
POST TEST		

DATES OF:

REFERRAL	PSYCHOLOGICAL	MEDICAL	STAFFING	PHASE OUT

ATTENDANCE
Days Present:
Days Absent:

TO BE DETERMINED AT INITIAL STAFFING: (Please indicate when these goals have been achieved by the use of an*)

ACADEMIC GOALS:

SOCIAL GOALS:

FINAL GOAL EVALUATION: (to be completed when student is terminated from program or at the end of the year)

O. TEACHER TIME DISTRIBUTION LOG

This log was developed by personnel from the Kent program. The purpose is two-fold. It is an accountability sheet of how the LD teacher is using his/her time, and in what capacities. At the same time, it is an excellent way for the LD teacher to show others just how diversified and committed he/she is. Too frequently teacher morale suffers because principals and/or supervisors aren't cognizant or appreciative of the many extra hours spent by the teacher in planning and executing an effective, efficient program. During a program evaluation, the teacher might include the time distribution log along with his instructional strategies for the administrator to see.

This sheet is optional, of course, but could be advantageous from all viewpoints.

KENT CITY SCHOOLS RESOURCE TEACHER ACTIVITY Month / Week

	Approximate Minutes Per Activity					
SERVICE TO YOUTH	M	T	W	T	F	Total
Assessment						
Academic						
Behavior						
Preparation						
Planning						
Paper Work						
Develop/Obtain Materials						
Group Participation						
Resource Instruction						
Guidance Counseling						
Individual						
Supportive Tutoring						
Remedial Instruction						
Counseling						
Coord. H.S. Youth Tutoring						
Coord. Individual Work Experience						
Consulting with Teachers						
Instruction						
Behavior						
Materials						
Student Coordination/Follow Up						
Consulting with Counselors						
Individual Program Changes						
Individual Recommendation/ Follow Up						
Parent Guidance/Counseling						
Administration						
Program Progress Evaluation						
Staffings						
L.D. Supervisor						
School Psychologist						
Director Special Education						
Principal						
Team of Above						
Parent Group Meetings						
In-Service Meeting (RHS Staff)						
Faculty Advisor to Ind. Study Projects						
Coord. Univ. Students L.D. Tutoring Asst						
Coord. Comm. Agencies L.D. Youth						
Self Development (Improve Competencies) Prof. Meeting, etc.						

NOTE: Please indicate any activity occurring after 4 P.M. by circling time. If there is involvement in other activities, please write in and record in appropriate category.

III. Writing an Individual Education Program

WRITING AN IEP

The "IEP" is a written document agreed upon by the child's parents or guardian, and/or child when appropriate, the representative of the LEA, and teachers, which is specifically designed to meet the unique educational needs for the handicapped student.

A. Summary of Present Level of Educational Performance

The first task of the IEP Committee is to review the diagnostic data gathered by the School-Based Committee. This data should include observational, educational, social, medical, psychological reports, speech and language evaluations, etc.

Using this information, the IEP committee should list the student's strengths and weaknesses, learning style and any other information that adds to the understanding of the student's educational status. The "educational functioning" include academic skills (e.g. language arts, math, etc.) social adaptation, pre-vocational and vocational skills, psycho-motor skills, perceptual skills, self-help skills; depending on the ability level of the student.

- Once the Committee members are satisfied with these statements, they should be transferred to the "SUMMARY OF PRESENT LEVELS OF EDUCATIONAL PERFORMANCE."
- The statements should be in the language that parents and teachers can understand.
- The statements should reflect a balance between formal and informal data.
- The statements should be written so that you can write long-term goals and short-term objectives.
- The statements should include specified strengths and weaknesses in each learning area.

NOTE: This particular section of the IEP "SUMMARY OF PRESENT LEVEL OF PERFORMANCE" may have been completed by the School-Based Committee and therefore would require a review of this information by the IEP Committee in order that the other Sections of the IEP could be completed.

B. Long-Term Goals

*The term "goals" is used to identify the exact aim, purpose, or end that is to be obtained from any course of action or in any behavioral situation. Goals are used as a point of departure from which the more specific and complete behavioral objective can be developed. Educational goals are broad statements about what students should learn in a whole semester or year.

Examples:

To increase achievement in mathematics skills.

To improve anti-social attitude toward classmates and teachers.

To improve reading comprehension skills.

To develop word recognition skills.

For each of the areas of need indicated by the summaries already entered on the form, the Committee will write a long-term goal statement. Each goal will reflect what the committee expects to be able to accomplish with the student on a long-term basis of one year.

The long-term goals must be attainable and realistic for the student and should be stated in terms of what the student will be able to achieve within one year.

The number of goal statements needed is dependent upon the student's need and may range from one to several. In the case of a child with many needs, the Committee should concentrate initially on goals they would consider to be of high priority and later move to the other areas.

If the Committee is satisfied with the goals; they should be transferred to the IEP form; listing one goal per page.

Long-Term Goal:____

- Check to be sure that each goal is realistic and attainable for the student for one year.
- Consider the concern of the parent and teacher(s).
- Check to see if you have written a goal for each of the areas of need indicated by the "Summary of Present Level of Educational Performance."

Whenever the goal(s) is/are achieved the IEP Committee must reconvene to set-up new goals, and objectives.

Ashan, H.H., Writing Behavioral Objectives: A New Approach, 1970.

Special Educational and/or Support Services______________
Projected Beginning and Ending Service Dates______________
Person(s) Responsible______________________________________

a. Special Educational and/or Support Services

All educational services considered important to the student's educational goals must be listed, even if these services are not available. For each of the goals listed, the Committee will specify the type of service needed to meet that goal. This statement will be in general terms and would include service areas such as regular classroom instruction, special education instruction, physical therapy, physical education, speech, vocational education, etc. The assignment of services is not a placement decision. It is a listing of types of services that will best meet the student's need.

b. Projected Beginning and Ending Dates of Service

The services listed must include when services will begin and when services are estimated to end.

c. Person(s) Responsible

The committee should assign a specific person or persons who will be responsible for seeing that the short-term objectives in his/her service area are developed and met.

If there is no person in the school system who has been assigned the responsibility for the types of services needed, then the Committee must try to locate that service. For example, if the student needs physical therapy, but there isn't a physical therapist in the school system, then the Committee should check with the nearby school systems, mental health clinics, etc. to locate the service needed.

NOTE: The School-Based Committee may and can have completed the (a) Long-term goals, (b) Special Educational and/or Support Services, (c) Projected Beginning and Ending Dates of Service, (d) Person(s) Responsible. If so, the IEP Committee must review this information in order that the other sections of the IEP can be completed.

C. SHORT-TERM OBJECTIVES IN MEASURABLE TERMS

Short-term objectives - 1) statements of observable behavior(s) which the learner will be able to exhibit as a result of the activity; 2) statements describing, in specific, objective and measureable terms, the intermediate steps which together will help the student to accomplish the goal. Short-term objectives are statements about what students should learn in about one to three months.

Example: The student will be able to name the primary and secondary colors 10/10 times.

The student will define fifty words commonly found on application forms with 100% accuracy.

The student will demonstrate skills necessary for traveling around in his community with 95% accuracy.

WORDS TO AVOID

to know
to enjoy
to understand
to show
to appreciate
to believe

see the significance of
see the necessity of
develop a feeling for
become familiar with
learn
realize

The list below contains many "action" words for writing objectives. Words which have similar meaning have been grouped. Those in capital letters are perhaps the most encompassing.

1. IDENTIFY, select, point to, touch, pick up, choose, label.
2. DISTINGUISH, differentiate, discriminate among, separate.
3. CONSTRUCT, make, build, put together, draw, design.
4. NAME, state, write, read, recite, list, report, tell, express.
5. ORDER, arrange, categorize, seriate, rank, group, sort, grade.
6. DESCRIBE, report, compare, state the properties of, draw, tell.
7. DEMONSTRATE, show, carryout the procedure for, operate.
8. STATE RULE, communicate a principal, axiom, law, or definition in answer to a question.

In each of the examples the objectives specify the following three things:

1. Who will do what-----------------------------Action
2. Under what conditions ----------------------Conditions
3. To what degree of success-------------------Acceptable Performance

Specify the action. This usually takes the form of indicating exactly how or in what form the action will be performed, e.g. in writing, by drawing, by stating, by pointing to . . .

Specify the conditions under which the child will be expected to perform the behavior, e.g. when he is asked a question, without aid, with verbal cues, with written directions, with a meter stick.

Specify the level of acceptable performances, e.g. the number of percentage of items he must respond to correctly. State how successful the student's performance must be to assure that the skill has been mastered. This is stated as the number of times the behavior must occur to attain credit with the total number of trials, or opportunities given. To attain mastery for a task, you would generally expect 100% correct performance.

NOTE: If objectives are stated in measureable terms, then the criteria have already been set. This should be stated in that section of the IEP form.

D. Objective Criteria/Evaluation Procedures

For each short term objective, the Committee should state how accomplishment of that objective will be evaluated in order to determine the progress made toward the objectives. This evaluation must occur at least yearly. However, on-going or frequent evaluation should determine the objectives accomplished or necessary changes in the program before the mandatory annual evaluation.

If objectives have been stated in measureable terms, then the criteria have already been set. This should be stated in that section of the form.

The evaluation criteria is directly related to the short-term objectives. A Standardized test may or may not measure the stated objectives; some other form of evaluation may be more appropriate (e.g., criterion -- referenced assessment, observation and documentation of desired skills/behavior, teacher-made test). Baseline data may be helpful in determining progress on short-term objectives.

Prepared by Sybil K. Sheinberg, Queens Center for the Multiply Handicapped Children

E. TIPS ON REDUCING IEP WRITING TIME

One of the major concerns of educators who are to become involved in writing IEP's is the time to get it done.

This short section is to provide you with some tips for reducing the amount of time spent by Committee members developing IEP's.

1. Each instructional personnel making up the School-Based Committee (regular teacher, special teacher) and psychologist should prepare in writing the educational functioning (strengths and weaknesses) on the student being considered for placement in each learning area. The "educational functioning" include academic skills, (e.g., language, arts, math, etc.) social adaptation, prevocational and vocational skills, psycho-motor skills, perceptual skills, self-help skills, etc.

2. Copies of the data are sent to each School-Based Committee member days prior to the actual meeting. Therefore, each Committee member will have data on the student from each instructional personnel and others who have worked with the student.

3. The data is reviewed prior to attending the School-Based Committee meeting. If there are questions concerning that data they should be written down and discussed at the meeting.

4. Compile a list of the student's strengths and weaknesses.

5. Take the data, questions and compiled list to the School-Based Committee meeting.

AT THE SCHOOL-BASED COMMITTEE MEETING

6. Each member will verbally present/review data that was previously given to Committee members and answer questions.

LEA ADDRESS

INDIVIDUALIZED EDUCATION PROGRAM

FROM_____ TO_____

NAME:__________ SCHOOL__________ GRADE__________ BIRTHDATE__________

Parent's Name__________ Address__________ Phone: Home__________

Work__________

SUMMARY OF PRESENT LEVELS OF EDUCATIONAL PERFORMANCE

SCHOOL BASED COMMITTEE MEMBERS PRESENT

LEA Representative__________
Teacher(s)__________
Parent(s)__________
Others__________
Student__________
Date of Meeting__________
Date for Review__________

PLACEMENT:

- __Regular class with consultative support
- __Regular class with itinerant support
- __Resource room
- __Self-Contained with integration
- __Self-Contained
- __Special School
- __Home or Hospital
- __Residential School or Hospital
- __Other Explain:

YEARLY CLASS SCHEDULE

	TIME	SUBJECT	TEACHER
2nd Sem.			
1st Sem.			

Special Educational and/or Support Services ______________________________

Projected Beginning and Ending Dates of Service ______________________________

Person(s) Responsible ______________________________

SHORT TERM OBJECTIVES IN MEASURABLE TERMS	Specific Procedures/Techniques Materials, Learning Style, etc.	OBJECTIVE CRITERIA/ EVALUATION PROCEDURES

F. CASE STUDY

John Doe
Test Data

CA 13-0 Current Grade 6-8

1. WISC-R

Verbal Tests		Performance Tests	
Information	10	Picture Completion	11
Comprehension	4	Picture Arrangement	7
Arithmetic	6	Block Design	7
Similarities	10	Object Assembly	12
Vocabulary	7	Coding	5
Digit Span	(8)		

Verbal Scale IQ	84
Performance Scale IQ	89
Full Scale IQ	85

2. PIAT

	Age Equivalents
Mathematics	10-7
Reading Recognition	11-2
Reading Comprehension	12-1
Spelling	9-7
General Information	10-3
Total Test	10-6

3. Motor Free Visual Perception Test

PA greater than 9
Raw Score 32

4. Key Math

	Grade Score
Numeration	3-7
Fractions	4-3
Geometry & Symbols	4-1
Addition	3-7
Subtraction	2-9
Multiplication	4-8
Division	5-0
Mental Computation	4-1
Numerical Reasoning	2-8
Word Problems	2-5
Missing Elements	0
Money	3-6
Measurement	3-7
Time	5-6
TOTAL TEST	3-6

5. VMI

Raw Score	12
PQ	6-5

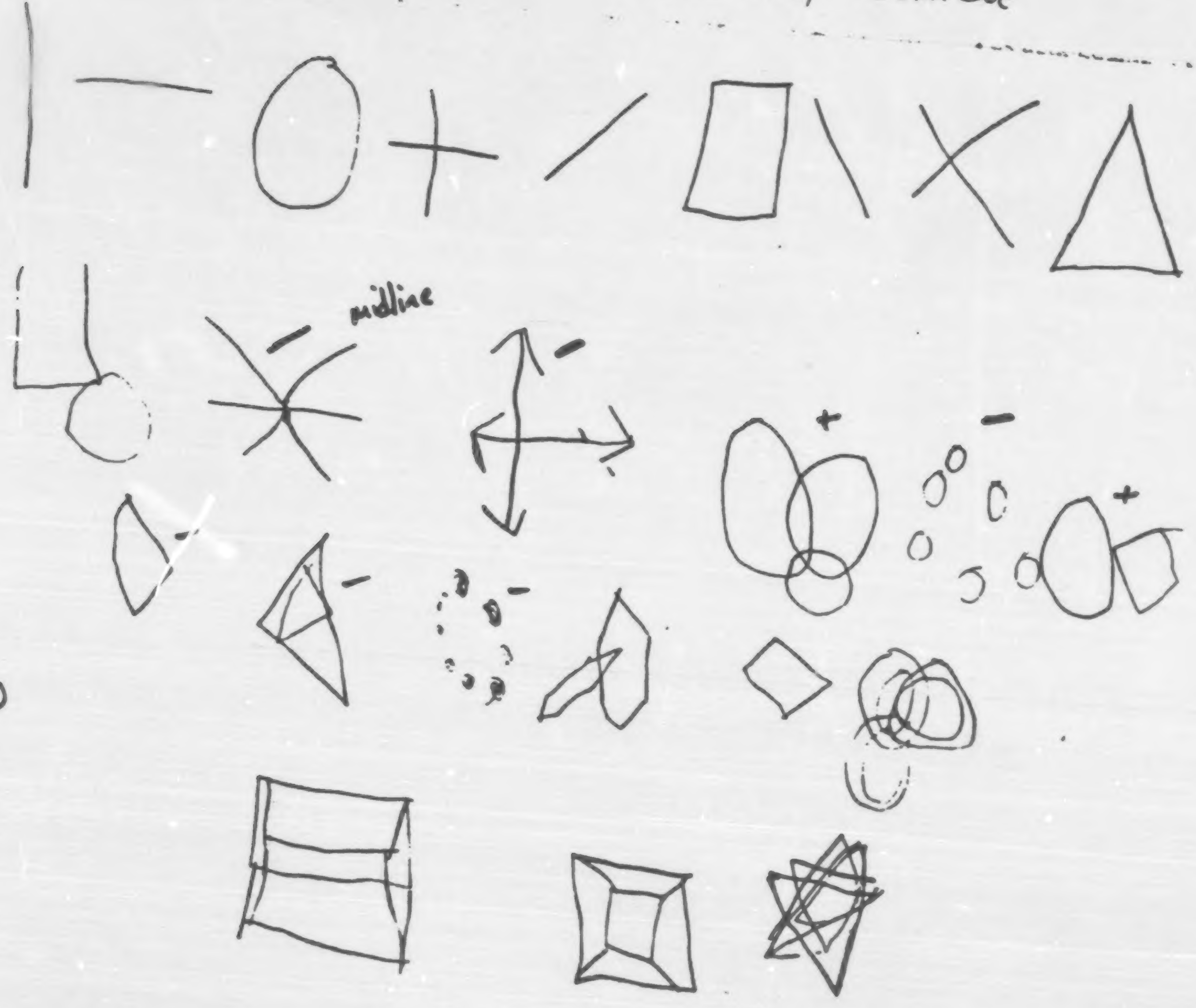
6. Human Figure Drawing

Goodenough	20
Conceptual Age	8-0

7. Basic Educational Skills Inventory - Reading B

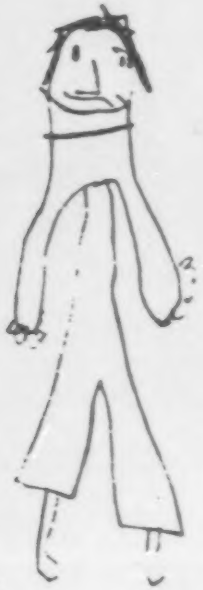
All 22 subtests OK - No errors

Case Study - John Doe



12 raw
6-5 AQ

Case Study - John Doe



Spacemen

Class A

Total score_____

Class B

Total score_____

1.... 11a.....
2.... 11b.....
3....

4a... 12a.....
4b... 12b.....
4c... 12c.....
12d.....
5a... 12e.....
5b...
13......
6a...
6b...
14a.....
7a... 14b.....
7b... 14c.....

Goodenough
Δ

$\frac{KK}{\ }$ = 8-0

insecurity

PSYCHOEDUCATIONAL EVALUATION

John Doe
Raleigh, North Carolina

Date: September 1, 1979

Evaluation Instruments Utilized: Wechsler Intelligence Scale for Children, Key Math, Motor Free Visual Perception Test, Handwriting Sample, Visual Motor Integration Test, Human Figure Drawing, Peabody Individual Achievement Test, and the Basic Educational Skills Inventory: Reading Level B.

Behavior: John is a small, very friendly, left handed youngster who responded easily to everything asked of him. Although somewhat anxious in the first session, he proceeded to relax a great deal as he experienced success in what he was doing. He did not display any unusual mannerisms or behavior and related well to the examiner. In fact, as he experienced success, he appeared to want to do a great deal more than was asked of him, and seemed somewhat disappointed when the evaluation was completed. This suggests that if his school learning were structured to guarantee success immediately before confronting John with a task he could not complete, his performance and involvement should increase. In reviewing a previous psychological by Dr. Freud and letter from Dr. Jung, John's behavior has improved significantly especially as it relates to others. It also appears that many of his previous mannerisms have dissipated and there is also a reduction in dependent baby-talk.

Intelligence: Previous psychological evaluation indicated that John's intellectual functioning was well within the average range of ability on all three subscales of the WISC. The current evaluation suggests that John's overall abilities are still average but he has scored lower in a few areas (arithmetic, comprehension, and coding). John has retained some discrete school related information and seems to learn best auditorilly. He can classify his experience as long as there are substantial concrete clues available for him to do so. In the absence of clues, he simply cannot handle conceptual thought. There seems to be an impairment of social judgement and planning ability which frequently allows John to act in a loose, random fashion. John also needs some work in the expressive area as his responses were abbreviated and simplistic, especially in the area of word definitions. It was almost as if he knew what the words meant but simply could not put the total response together.

Visual-Motor Skills: John obtained a Perceptual Quotient on the Visual Motor Integration Test of six years five months which places him approximately six and one-half years behind his peers on these skills. He seemed able to recognize and handle the perceptual aspects but was unable to reproduce the specifics of the designs motorically. The Motor Free Visual Perceptual Tests lend support to motor problems as opposed to perceptual problems. On some of the more difficult designs, John could complete the task after the examiner completed the drawing and John copied the model. His handwriting is extremely poor in both printing and cursive. John seems to have greater difficulty handling printing because of the jerkiness of the movements and lack of interconnectedness.

Achievement: John obtained the following age equivalents on the Peabody Individual Achievement Test: Mathematics 10-7; Reading Recognition 11-2; Reading Comprehension 12-1; Spelling 9-7; General Information 10-3; Total Test 10-6. In all areas achievement is below expected age performance.

A. Reading

John recognizes the sounds of letters, combinations and blends. However, when asked to take a word apart into its component sounds and then put them together, he has difficulty. His difficulties in comprehension can be traced to a visual memory deficit and the lack of a responding context. However, when you supply the context, he generally makes a correct response. According to the Basic Educational Skills Inventory, John possesses the necessary auditory skills to handle a phonetics approach as he was able to complete all 22 subtests with very few errors. However, when you supply a visual context, his performance is lowered because of limited association skills.

B. Arithmetic

John obtained a total grade level score on the Key Math of 3-6 which is somewhat lower than his PIAT score (Grade 5-3). John had particular difficulty in addition whenever he had two two-digit numbers which called for a three-digit sum. He could not handle anything beyond that. Fractions and decimals have not been learned even at the most rudimentary levels. Similar findings were obtained in the operations of subtraction, multiplication, division, mental computation, and numerical reasoning. John has great difficulty picking out essential from unessential information, recognizing what arithmetical operations are called for, and applications by quantity or type.

C. Spelling

John responds to spelling in a very literal, concrete way. The words are spelled as they sound, with a minimal emphasis on the rules. He has particular difficulty with double letter words (excellence, committee) and i and e confusion. There are times that the s and c sounds are also confused. In general, John responds best in context, and all spelling work should be presented via a multiple choice format with appropriate feedback as to the nature of the corrections.

D. General Information

John performs best in this area as his auditory memory and emphasis on verbal discussion at home fosters these skills. Additional emphasis could be placed on the verbalization of experience and feelings and tie these in to both a creative reading and writing emphasis.

Summary and Recommendations

John Doe was a friendly youngster who has progressed a great deal in his current treatment both in terms of maturity and behavior. He has pronounced learning problems and will probably continue to experience learning difficulties. The most appropriate school placement for this youngster should be in a Hewitt Engineered classroom which emphasizes both structure and individual learning in an emotionally supportive environment. If that placement is not available, a learning disability resource teacher should be considered to work on the individualizing content programs. As there is no way to separate out an emphasis on learning from an emphasis on behavior, a strong contractual interaction between both parents, other children in the family and John should be developed. As far as learning is concerned, John learns better through the auditory channel provided the mode of responding is verbal as opposed to written. He has a great deal of difficulty in visual memory and needs a context from which to respond. His conceptual skills are limited and association skills need to be emphasized. The Language Experience Approach should be considered around which most remediation should flow, other than in the basic skill areas.

John Smith
Practicing Psychologist #269

MULTIDISCIPLINARY TEAM WRITTEN REPORT

John Doe

Date: September 4, 1979

John Doe has a specific learning disability in the following areas:

1) Reading Comprehension
2) Spelling
3) Arithmetic Calculation
4) Arithmetic Reasoning
5) Handwriting

On the basis of comparing current grade level and current achievement, John Doe's scores reflect severe discrepancies in the above specified areas. There is a need for special education and related services to focus upon the correction of the specified disabilities.

Although a great deal of initial anxiety was present, John was able to control his own behavior but performs best in a concrete, structured situation.

There were no educationally relevant medical findings nor was environmental, cultural, or economic disadvantage the cause of any of John's academic difficulties.

Signed:

John Smith
Psychologist

Virginia Robinson
LD Teacher

Jane Smith
Regular Classroom Teacher

High Collars
Principal

INDIVIDUAL EDUCATION PROGRAM (ALTERNATE FORM - II)
Total Service Plan

Student's Name John Doe School Patterson Jr. H.S. Grade 6

Summary of Present Levels of Performance:
(Strengths & Weaknesses)

1. Average Intelligence FSIQ 85
2. Spelling is poorest MA 9-7 (PIAT)
3. Basic Math skills are weak MA-107 GL-36 (Key M)
4. Handwriting skills weak (VMI & Samples PQ 6-5)
5. Word attack OK when structured (MA 11-2) PIAT
6. Comprehension best in context (MA 12-1) PIAT

Committee Members Present:

LEA Representative High Collars
Teacher(s) Virginia Robinson
Jane Smith
Parent Mr. and Mrs. John Doe, Sr.
Students
Parent Approval: John Doe
Date of Meeting: 9-7-79
Date of Review: 12-3-79

COMMITTEE RECOMMENDATIONS

Placement:
☐ Regular class w/consultative supportive support
☐ Regular class w/itinerant support
☒ Resource room
☐ Self-contained w/integration
☐ Self-contained
☐ Special school
☐ Other

% OF TIME IN REGULAR CLASSROOM	DATE OF PROGRAM ENTRY
60 2 hrs LD/day	9-15-79

Justification: Achievement and current school functioning

Specific Procedures/Techniques, Materials, etc. (Include information about learning style)
Use Language Experience Approach and integrate Reading, Spelling, and Handwriting in it.

Long Term Goal: To increase Reading Comprehension Skills

Priority: 1

Short Term Objectives (in measurable terms)	Special Educational and/or Support Services	Person(s) Responsible	Beginning Date	Projected End Date	Review Date	Objective Criteria and Evaluation
1. Utilizing the language experience approach, have John dictate material into a tape recorder,	Learning Disabilities Resource Room	Virginia Robinson	9-15-79	6-4-80	5-15-80	Post test PIAT-Reading Comprehension
2. After listening to the recorded tape, write the story in cursive.	"	"	"	"	"	Test of Written Language (Handwriting)
3. Drill on all misspelled words, adding new words for each new story, Start with oral spelling then proceed to cursive writing of the spelling words	"	"	"	"	"	PIAT. Spelling

Long Term Goal: To Apply the Language Experience Approach in the Content Areas

Priority: 2

Short Term Objectives (in measurable terms)	Special Educational and/or Support Services	Person(s) Responsible	Beginning Date	Projected End Date	Review Date	Objective Criteria and Evaluation
1. In Social Studies a. To teach course objectives via language experience approach	Learning Disability Resource Room and the Content Classroom	Virginia Robinson and Jane Smith - (Joint grading by both teachers)	9-15-79	6-4-80	5-15-80	Grade for subject based upon ability and performance
b. To develop individual projects that meet objectives	"	"	"	"	"	"
2. In Science a. After receiving a list of course objectives, teach vocabulary and course objectives via the language experience approach	"	Virginia Robinson and John Rhodes (Joint grading by both teachers)	"	"	"	"
b. To develop individual projects that meet course objectives 1. projects can be written, typed, or orally presented	"	"	"	"	"	"

Long Term Goal: To increase Basic Arithmetic Skills

Priority: 3

Short Term Objectives (in measurable terms)	Special Educational and/or Support Services	Person(s) Responsible	Beginning Date	Projected End Date	Review Date	Objective Criteria and Evaluation
1. To develop basic arithmetic calculation skills in a. addition b. subtraction c. multiplication d. division Through 5 columns	LD Resource Room	Virginia Robinson	9-15-79	6-4-80	5-15-80	Teacher Informal Test
2. To develop essential skills to pass the 11th grade competency test	"	"	"	"	"	% correct responses to Scholastic Company "Basic Arithmetic Skills'

G. MULTI-DISCIPLINARY TEAM REPORT

SPECIFIC LEARNING DISABILITY PLACEMENT

Student Name ________________________________ Date ____________

________________________ has a Specific Learning Disability in the following areas: (These areas are documented by evaluation analyses that indicate specific processing and/or other deficits that account for lowered academic performance.)

____

____

____

On the basis of comparing current grade level with current achieve-
mild/
ment, ____________ has a moderate discrepancy in the above specified
/severe
areas.

There is a need for special education and related services to focus upon the correction of the specified disabilities.

Observed Behaviors:

____

____

____

Relevant Medical Findings:

____

____

____

Effects of environmental, cultural and economic disadvantage are not the primary cause of academic failure.

Agree with the Above Statement:		Disagree with Above Statement: (Attach explanation)
____________________	Regular Education	____________________
____________________	Resource Teacher	____________________
____________________	School Psychologist	____________________
____________________	Principal	____________________
____________________	Other (Specify)	____________________

SECTION THREE

I. Early Childhood

Early Childhood

One of the most critical issues in the learning disabilities area concern the early identification of children with a learning problem. We know from research that environmental modification during the early developmental years can improve a child's later capacity for intellectual and social growth (Payne Kauffman, Brown and DeMott, 1974). We are continually extending the coverage of learning disability programs for kindergarten down through pre-school and nursery school programs and especially in the prevention of later school difficulties.

The following lists of tests and materials can be utilized by the learning disabilities teacher to develop an appropriate intervention program so that not only diagnosis but remediation can be completed.

References:

1. Payne, J.S., Kauffman, J.M., Brown, G.B., and DeMott, R.M. *Exceptional Children in Focus: Incidents, Concepts, and Issues in Special Education*. Columbus, Ohio, Charles E. Merrill, 1974.

2. Wallace, G. and Larsen, S. *Educational Assessment of Learning Problems: Testing for Teaching*. Boston, Mass., Allyn and Bacon, Inc., 1978.

MATERIALS FOR EARLY CHILDHOOD

The materials are divided into the following sections:

1. Materials for teaching the young child: readiness, perception, language, number concepts, emotional and social development
2. Materials for teaching reading: phonics and word analysis, and reading comprehension skills
3. Materials for the secondary level student: language, reading, spelling, writing, mathematics, social studies, and other areas
4. Multimedia equipment and machines for teaching.

A. MATERIALS FOR TEACHING THE YOUNG CHILD

This section is divided into (1) general materials, (2) arithmetic materials, (3) handbooks, and (4) publishers.

GENERAL MATERIALS

1. Academic Games Development Program. Motivational Research. Games for learning.
2. Auditory Discrimination Training. Learning Through Seeing, Inc. A program for prereading and beginning reading.
3. Auditory Perception Training. Developmental Learning Materials. A multimedia kit (cassette, spirit masters, etc.) for teaching auditory perception.
4. Dandy Dog's Early Learning Program. American Book Company. A readiness program.
5. Detect. Science Research Association. A sensorimotor approach to visual discrimination.
6. Developing Learning Readiness Program. Webster. A motor and and perceptual development program.
7. Children's World. Holt, Rinehart and Winston, Inc. A kit of multisensory materials for early childhood and readiness.
8. Concept Builders with Write and See. New Century.
9. DISTAR Language I and II. Science Research Association. A highly structured program designed to teach basic language concepts and build vocabulary and communication skills, (preschool and primary).
10. DUSO (Developing Understanding of Self and Others). American Guidance Services. A kit of activities and materials to facilitate social and emotional development. (K-4).
11. Early Childhood Discovery Materials. Macmillan. A readiness program.
12. Early Learning. McGraw-Hill/Early Learning. Materials for readiness, beginning reading, and language.
13. Goldman-Lynch Sounds & Symbols Kit. American Guidance Services. To stimulate production of speech.
14. The Fitzhugh PLUS program. Allied Education Council Perceptual training, spatial organization books for reading and arithmetic.

15. The Frostig Program for the Development of Visual Perception. Follett. Workbooks for training visual perception.
16. I Can Do It. Mafex Associates. Visual-motor activities.
17. Inquisitive. Science Research Associates. Games for exploring numbers and space.
18. The Language and Thinking Program. Follett. Materials to develop language and cognitive skills, (age 3-7).
19. Learning Aids for Young Children in Accordance with Montessori. Teaching Aids. Materials and equipment for readiness, perception, and motor development.
20. The MWM Program for Developing Language Abilities. Educational Performance Associates. A kit of remedial materials based on language disabilities as diagnosed by the ITPA, (age 3-11).
21. Matrix Games Package. Appletin-Century-Crofts. Games for readiness.
22 Michigan Successive Discrimination Program. Ann Arbor Press. Symbol tracking, visual tracking, word tracking.
23. Montessori-type Teaching Aids. Educational Teaching Aids. Materials patterned after the Montessori program.
24. Peabody Language Developmental Kits. American Guidance Services. Kits of puppets, pictures, and lesson plans to develop oral language skills.
25. Try Experiences for Young Children. Noble & Noble. Visual perceptual tasks.
26. TAD (Toward Affective Development). American Guidance Services. Group activities and materials to stimulate psychological and affective development, (3-6).

MATERIALS DESIGNED TO TEACH ARITHMETIC CONCEPTS

1. Arithmetic Step by Step. Continental Press. Boxed preprinted duplicating masters for ten units in arithmetic, (readiness-3).
2. Count Down. Economy Co. Use of paces (audio-tape player) and pacetapes (tape recordings), books for individualized mathematics program, (1-3).
3. DISTAR Arithmetic I and II. Science Research Associates. Structured program to teach basic number concepts, (K-2).
4. Mathematics in Action Series. American Book Co. Series of eight books designed for students with arithmetic difficulties.
5. Mathematics materials. A Daigger & Co., Educational Teaching Aids Division. Manipulative and concrete materials for teaching number concepts.
6. Mathematics materials. Edukaid of Ridgewood. Equipment and materials for teaching arithmetic.
7. Mathematics materials. The Judy Co. Concrete materials to enhance the teaching of number concepts.
8. Mathematics materials. Teaching Resources Corp. Number relationships, time concepts, games, and manipulative materials.
9. Math Lab. Benefic Press. A kit of boxed cards with activities to teach mathematics concepts, (primary-junior high school).
10. Pacemaker Arithmetic Readiness. Fearon. Primary level special education pre-arithmetic skills.
11. PLUS. Educational Services, Inc. Teacher's handbook of games, ideas, and activities to teach arithmetic.

12. The Sensorithmetic Program. Developmental Learning Materials. Teaching basic number and arithmetic concepts through the use of sensory reinforcement materials.
13. Stern Structural Arithmetic. Houghton Mifflin. A kit of manipulative objects, (K-3).

HANDBOOKS AND MANUALS

The following are organized resource collections of methods and materials for remediation.

1. Adapt Handbook I: A Mainstream Approach to Identification, Assessment, and Amelioration of Learning Disabilities (by Robert R. Ferrald and Robert G. Schambers). Adapt Press, Inc.
2. Educational Therapy Materials from the Ashlock Learning Center (by Patrick Ashlock and Sister Marie Grant). Charles C. Thomas.
3. Handbook in Diagnostic Teaching: A Learning Disabilities Approach (by Phillip Mann and Patricia Suiter). Allyn and Bacon.
4. The Remediation of Learning Disabilities: A Handbook of Psychoeducational Resource Programs (by Robert E. Valett). Fearon.
5. Workjobs. Addison-Wesley. A manual of ideas and suggestions for teacher-made materials and equipment for early childhood readiness and remediation.

See Appendix II for Names and Addresses of Publishers

"Materials for Teaching the Young Child" from Theories Diagnosis And Teaching Strategies For Children With Learning Disabilities, second edition, Janet Lerner. Houghton-Mifflin, 1976, pages 396-8, reprinted with permission.

B. TESTS FOR EARLY CHILDHOOD

The following materials developed by Technical Assistance and Development Systems of The University of North Carolina at Chapel Hill contain a listing and description of appropriate assessment tools to evaluate young children.

ABC INVENTORY
N. Adair and G. Blesch
Research Concepts, A Division of Test Maker, Inc.

The ABC Inventory is designed to identify children aged four to six who are likely to fail in kindergarten or who are not likely to be ready for grade one. Items relate to drawing, copying, folding, counting, memory, general information, colors, size concepts, time concepts, and the like. The Inventory is individually administered, paced, and takes about nine minutes to give. No special training is needed to administer the questionnaire. Raw scores are related to "ready ages," which are highly correlated with mental ages (Stanford-Binet). Reliability studies consisted of testing the means of two comparable groups who took the Inventory in 1962 and in 1964. Studies of the relationships between those students who scored below certain cutting scores and those who failed in kindergarten or the first grade are reported. (Review from "School Readiness" HSTCR).

ADAPTIVE BEHAVIOR SCALES (AAMD)
N. Nihira, R. Foster, M. Shellhas and H. Leland
American Association on Mental Deficiency

The Adaptive Behavior Scale is an informant-interview behavior-rating scale for mentally retarded and emotionally maladjusted individuals. It provides information on his effectiveness in coping with the natural and social demands of his environment. The scale assesses the important area of how independent the individual is able to be. There are two forms of the scale; the one reported here is for children twelve years of age or younger. Since some items are not appropriate for very young children, a list of items omitted for children under five is given on each page. Part I of the test taps ten behavior domains: independent functioning, physical development, economic activity, language development, number and time concept, domestic duties, self-direction, responsibilities, and socialization. Part II provides information on maladaptive behavior, such as violent and destructive behavior, untrustworthy behavior, inappropriate interpersonal manners, and hyperactive tendencies. Points are given for each response to yield scores which may be compared with scores from institutional populations. However, unscored responses are also informative.

ASSESSMENT PROGRAM OF EARLY LEARNING LEVELS (APELL)
E.V. Cochran and J.L. Shannon
Edcodyne Corporation

The APELL indicates deficiencies in the areas of language skills, prereading, and pre-mathematics in children from four and one-half to seven. It may be used with younger children if it is individually administered. Visual discrimination, auditory association, letter names, discrimination of attributes, number concepts, number facts, nouns, pronouns, verbs, requires about forty minutes to administer and should be given in two, twenty-minute sessions on consecutive days. No training is necessary to administer the test. Examinees answer questions by selecting one of three pictures. The test is machine scored. Psychometric data was not available for review (Review from "School Readiness" HSTCR).

AUDITORY DISCRIMINATION TEST (WEPMAN)
J. Wepman
Language Research Associates

The Auditory Discrimination Test requires about five minutes to administer and presents matched words which the child is asked to indicate as being the same or different. Test results are interpreted in terms of either adequate or inadequate development of auditory discrimination, with cut-off points given starting at age five. The test lacks the sophistication of the Goldman-Fristoe-Woodcock, but appears to be a simple and efficient instrument for limited purposes. (Review in Gearhart and Willenberg).

BASIC CONCEPT INVENTORY
S.E. Engelman
Follett Education Corporation

The Basic Concept Inventory provides a broad checklist of basic concepts that are involved in new learning situations and are used in explanations and instructions in the first grade. It is primarily intended for culturally-disadvantaged preschool and kindergarten children, slow learners, emotionally disturbed children, and mentally retarded children. Although designed for young children, it may be given to children aged three to ten. The inventory is criterion-referenced and uses basic concepts, sentence repetition and comprehension, and pattern-awareness tasks. It is individually administered, paced, and requires about twenty minutes. If the inventory is to be used as a basis for remedial instruction, it may be given by the classroon teacher. If, however, it is to be used diagnostically as the basis for special treatment or special placement, a trained examiner should administer the instrument. Reliability and validity studies are reported to be in progress. (Review from "School Readiness" HSTCR).

BAYLEY SCALES OF INFANT DEVELOPMENT
N. Bayley
The Psychological Corporation

The Bayley Scales of Infant Development assess developmental status in infants from birthto thirty months of age. The Mental Scale (163 items) measures sensory-perceptual acuities and discriminations; early acquisition of object constancy and memory, learning, and problem-solving ability; vocalizations and the beginning of verbal communication; and early evidence of the ability to form generalizations and classifications. The Motor Scale (81 items) measures the degree of control of the body, coordination of the large muscles, and finer manipulatory skills of the hands and fingers. Each of these items has an age placement to the nearest one-tenth of a month and an age range. The last part of the test is an Infant Behavior Record, consisting of thirty ratings, which is completed by the examiner, after the Scales have been administered, on the basis of his observations.

It deals with social orientation, emotional variables, object relations, motivational variables, activity, reactivity, sensory areas of interest displayed, and general evaluations. Some props are needed. A kit of the materials used for the norming groups is available. The test is untimed (although certain items are timed) and individually administered. Training is needed. The mother (or mother substitute) is present during the test. Average testing time for the Mental and Motor Scales is forty-five minutes with about ten percent of the cases requiring seventy-five minutes or more. Raw scores may be converted to Mental Development and Motor Development indices, scores standardized by age with a mean of 100 and standard deviation of sixteen, or to mental ages. Evidence of face validity is presented. Split-half, test-retest, tester-observer reliabilities, and correlations with Standord-Binet I.Q.'s for sample members aged twenty-four, twenty-seven, and thirty months are reported. (Review is from "Infant Development" HSTCR.)

BEERY-BUKTENICA DEVELOPMENTAL TEST OF VISUAL-MOTOR INTEGRATION
K. Beery and N. Buktenica
Follett Educational Corporation

The Developmental Test of Visual-Motor Integration assesses the degree to which visual perception and motor behavior are integrated. It consists of a series of twenty-four geometric forms which the subject is asked to copy without erasures or corrections. The test is for ages two to fifteen years, and scores provide a visual-motor integration-age equivalent. According to Beery, there are five levels of visual-motor integration. It is considered a fairly complete test of visual-motor functioning in young children. (Review in Gearhart and Willenberg).

BEHAVIORAL DEVELOPMENTAL PROFILE (MARSHALLTOWN)
M. Donahue, J. Montgomery, A. Keiser, V. Roecker and L. Smith
Department of Special Education, Marshall-Poweshiek Joint County School System

The Behavioral Developmental Profile is designed to measure the development of handicapped and culturally deprived children ages zero through six and to facilitate individualized teaching of preschool children within the home setting.

The items are based upon normal child development; that is, they are taken from normative sources. The profile consists of behavioral skills specifically stated and divided into three scales: Communication, Motor, and Social. The items within each category are arranged according to age. This is a criterion-referenced device designed to measure the progress of each child in months.

The profile is used with score sheet and in conjunction with the Behavioral Prescription Guides. The guides list behavioral objectives reduced into sequential steps and the activities to accomplish each objective. There are objectives for each of the skills measured in the profile.

The results from the profile are used to ascertain the level of development along with strengths and weaknesses. The person who is working with the child then uses this information to set objectives and choose strategies for accomplishing those objectives.

BENDER MOTOR GESTALT TEST

L. Bender
American Orthopsychiatric Association

The Bender Gestalt test consists of eight disigns which are copied by the child under standard conditions and scored for specific errors in reproduction. It is a clinical device used to detect visual perceptual difficulties and the possible presence of brain damage. It is for individuals aged four years and up. It is described as "a maturational test of visual-motor gestalt function in children, to explore retardation, regression, loss of function and organic brain defects, and personality deviations." Its major use is as a diagnostic instrument. Many scoring schemes are available, but all lack substantial population norms. (Reviewed in Savage).

BIRTH-3 SCALE

Tina Bangs and Susan Garrett
Houston Speech and Hearing Center

The Birth-3 scale was developed to provide baseline data for habilitation and rehabilitation procedures for those children from birth to three referred to the Houston Speech and Hearing Center. There are ninety items arranged according to age in six-month intervals. They have included alternate items for standardization purposes. It is recommended that a case history of the examiner's choice be used to provide additional information.

The instrument is constructed so that it can be used and interpreted by those not specifically trained in psychometrics. The methods for scoring each item are clearly stated. The materials for the scale can be taken from standardized tests or the mother can choose the materials. The authors feel this is the first step in the development of a culture-free test.

Standardization procedures are currently in progress. The scores from the scale are supposed to indicate the present developmental level of the child. The scale can also be used in pre-post fashion.

BOEHM TEST OF BASIC CONCEPTS (BTBC)

A.E. Boehm
The Psychological Corporation

The Boehm Test of Basic Concepts measures masters of concepts considered necessary for achievement in the first years of school. It is appropriate for Grades K-2. Pictorial multiple-choice items check concepts of quantity and number, space (location, direction, orientation, dimension), time, and miscellaneous. BTBC is group-administered and paced. Administration time is fifteen-twenty minutes for each of two test booklets. The test may be given in one or two sessions depending upon age and attention span. Testing in small groups (eight-twelve) or using assistants is helpful with younger children. No special training is needed to give the test. Percentile norms by grade and by socioeconomic level are available. Split-half reliabilities are reported. Content validity is inferred from the item selection procedures. No other validity data are reported. (Review from "School Readiness" HSTCR).

BURKS BEHAVIOR RATING SCALES

H. Burks
Los Angeles Supt. of Schools

The Burks Behavior-Rating Scale is a means by which teachers or untrained individuals can record behavioral or learning disorders that are indicative of organic brain dysfunction. It consists of thirty items; for example: "hyperactive and restless," "cries often and easily," "explosive and unpredictable behavior," "often tells bizarre stories"--on which the teacher can rate on a five-point scale from "have not noticed this behavior at all" to "have noticed this behavior to a very large degree" for each child. The scale is designed for grades one through six and is described by Johnson and Bommarito. (Review in TMCD, p. 40).

BZOCH-LEAGUE RECEPTIVE-EXPRESSIVE EMERGENT LANGUAGE SCALE

K.P. Bzoch, R. League
The Tree of Life Press

The Bzoch-League Receptive-Expressive Emergent Language Scale aids the evaluator in investigating emergent expressive and receptive language skills in very young (birth through three years) children, and in detecting handicaps in language acquisition. The scale contains items for specific age periods, half of which deal with receptive language and half of which deal with expressive language. There are six items for each month for the first year, six items for each two-month period for the third year. The scale can usually be completed by an interview with the mother or principal caretaker, although occasionally direct observation is necessary. The test yields a receptive language age, expressive language age, and combined language age. All of these can also be expressed as language quotients. The manual includes an explanation of the conceptualization of language acquisition that dictated the scale's construction.

CAIN LEVINE SOCIAL COMPETENCY SCALE

L.F. Cain, S. Levine, and F.F. Elzen
Consulting Psychologists Press, Inc.

The Cain Levine Social Competency Scale measures the social competence of trainable mentally retarded children aged five to thirteen. The scale is divided into four subscales: self-help (manipulative and motor skills), initiative (self-directedness), social skills (interpersonal relationships) and communication (understandability). Many of the items deal with skills which would be deemed maturational in the normal child. The scale consists of forty-four items and is completed by interviewing a person who has had considerable opportunity to observe the child. The interviewer must have some skill in the task in order to obtain accurate responses from the respondent. Chronological age percentile norms for trainable mentally retarded children, for the total score, and for the four subscores are available. Off-even and test-retest reliabilities are reported. No validity studies were available for review. (Review from "Social Skills" HSTCR).

CALIFORNIA PRESCHOOL SOCIAL COMPETENCY SCALE
S. Levine, F.F. Elves, and M. Lewis
Consulting Psychologists Press, Inc.

The California Preschool Social Competency Scale is designed to measure the adequacy of inter-personal behavior and degree of assumption of social responsibility in children of age two to five. The behaviors included are situational in nature and were selected in terms of common cultural expectations to represent basic competencies to be developed in the process of socialization. Each item contains four descriptive statements, posed in behavioral terms, representing varying degrees of competency. The CPSCS contains thirty items designed to be rated by a classroon teacher. The nature of the items requires the rater to have had considerable opportunity to observe the child in a variety of situations. Age percentile norms by occupational level and total sample are available. Inter-rater reliabilities are reported. (Review from "Social Skills" HSTCR).

CAROLINA DEVELOPMENTAL PROFILE
David L. Lillie
Technical Assistance Development System (TADS)

The Carolina Developmental Profile is a criterion-referenced check-list of skills expected of children aged two to five years. The skills are in five areas--fine motor, gross motor, perceptual reasoning, receptive language, and expressive language. The purpose of the profile is to expose those areas in which the child is weak so that the teacher may plan instructional objectives that are appropriate to him. Each task is classified into a sub-category (for example, fine motor includes finger flexibility, arm and hand precision, and hand and finger dexterity). For each task, there is a task description, developmental age, needed materials, and criteria for passing. The Profile is presently an experimental edition which is not in final form.

CASSEL DEVELOPMENTAL RECORD
R.N. Cassel
Psychologists and Educators, Inc.

The Cassel Developmental Record is essentially a record form on which many developmental profiles may be plotted on the same individual at different ages. Profiles span the dimensions of chronological age, physiological development, emotional development, psycho-sexual development, intellectual development, socail development, and educational development, providing an average total developmental age. Chronological ages are from birth to old age. The author suggests using objective test data (from such instruments as the Vineland and Gesell Scales) when it is available. If it isn't, the profiles do provide guidelines. The author also suggests that the profile be used for young children, where developmental factors may determine educational objectives, and that it becomes a part of the cumulative file.

CATTELL INFANT INTELLIGENCE SCALE
P. Cattell
The Psychological Corporation

The Cattell Infant Intelligence Scale measures intelligence in children from age two months to two and one-half years. The Scale has five items and one or two alternate items for each age level. The levels are at one-month intervals from two to twelve months of age, two month intervals from twelve to twenty-four months, and three-month intervals from twenty-four to thirty months. The score obtained is the child's mental age. A number of props are needed. The test is untimed and individually administered by a person with a sound background in child psychology, including mental testing of children and a nursery school training course. Testing time is twenty to forty minutes. Item response rates for various ages of infants are reported. Spearman-Brown reliabilities and predictive validities with Stanford-Binet scores (thirty-six months) are available. (Review from "Infant Development" HSTCR).

CHILDREN'S SELF-SOCIAL CONSTRUCTS TEST
R. Ziller, B. Long, and E. Henderson
Dr. R. Ziller, Dept. of Psychology

The children's Self-Social Constructs Test is a measure of self-concept. The preschool test (ages three to eight years) is individually administered and untimed, and takes about ten minutes. The preschool form measures dependency, esteem, realism color, and realism size. A child is required to select a circle, draw a circle, or paste a circle to represent himself or someone else. Psychometric data is available. Further information is given in the ERIC Head Start Test Collection Self Concept Bibliography. (Reviewed in TMCD, p. 319).

CINCINNATI AUTONOMY TEST BATTERY
T.J. Banta
T.S. Banta

The Cincinnati Autonomy Test Battery measures autonomous functioning in problem solving in children age three to six.

Along with social competency, the CATB autonomy variables are curiosity, innovative behavior, impulse control, reflectivity, incidental learning, intentional learning, persistence, resistance and distraction, field independence, task competence, curiosity verbalization, fantasy-related verbalization, and kindergarten prognosis. The measure consists of a number of subtests such as the curiosity box test, the dog-and-bone test, and ratings of variables by means of examiner observations during the testing period. Social competency is assessed by examiner rating scales. Tests are administered individually. Examiners should have extensive experience with young children and need some training or practice in giving this instrument. Some of the sub-tests are timed and others are not. The total testing procedure takes about one hour. Obtained ranges, means, and standard deviations on the subscores are available. Inter-rater, test-retest, odd-even reliabilities and correlations with Standord-Binet IQ scores are reported. (Review from "Social Skills" HSTCR).

COMMUNICATIVE EVALUATION CHART

R. Anderson, M. Miles, and P. Matheny
Educators Publishing Service, Inc.

The Communicative Evaluation Chart for children from infancy to five years of age, is a screening device that gives an impression of the child's overall abilities. From twelve to twenty-five items are given for the ages three months, six months, nine months, one year, one and one-half years, two years, three years, four years, and five years. Half the items deal with the development and comprehension of language as a communicative tool, while the other half deals with physical growth and development, motor coordination, and visual-motor responses; some items can be reported, while others require a response by the child. This is essentially a checklist of items categorized by age. Norms are based on other tests. (Test is described in CIB Bibliography).

DENVER DEVELOPMENTAL SCREENING TEST

W. Frankenburg and J.B. Dodds
Ladoca Project and Publishing Foundation, Inc.

The Denver Developmental Screening Test is a simple, clinically useful tool designed to assist in the early detection of children with serious developmental delays. It may be used with children from age two weeks to six years. The purpose is screening, not diagnosis. Although the test contains 105 tasks, a child of any given age will usually be tested on about twenty items. The DDST evaluates the following areas: gross motor, fine-motor-adaptive (use of hands, ability to solve non-verbal problems), language (ability to hear and talk), and personal-social (tasks of self-care, ability to relate to others). The test is individually administered and paced. No special training is needed. Testing materials include a rattle, pencil, box of raisins, bell, tennis ball, glass bottle, some blocks, and some yarn. Task norms which indicate the age at which twenty-five, fifty, seventy-five and ninety percent of boys, girls, and all children successfully complete each item are available. Test-retest reliability, inter-examiner reliability, and the correlation of the DDST with the Yale Developmental Schedule are reported. (Review from "School Readiness" HSTCR).

DETROIT TESTS OF LEARNING APTITUDE
H.J. Baker and B. Leland
Bobbs-Merrill Company

The Detroit Tests of Learning Aptitude are a series of nineteen subtests designed to measure abilities in reasoning and comprehension, practical judgement, verbal ability, time and space relationships, number ability, auditory attentive ability, visual attentive ability and motor ability. The examiner selects a number of subtests (usually from nine to thirteen) appropriate to the subject. Guidelines are provided. The range of mental ages measured is three years to nineteen years. Six subtests are recommended for the preschool age level. The authors also suggest which subtests may be used for individuals who are visually impaired, hearing impaired, cerebral palsied, speech impaired, or who have a foreign language handicap. They report that the test is suitable for use with mentally retarded children. The tests yield a general mental age as well as subtest mental ages. It was standardized on pupils in the Detroit Public Schools, a population typical of large metropolitan cities.

DEVELOPMENTAL GUIDELINES
Compiled from selected sources by Catherine C. Sprugel and Sheila Goldberg under the direction of Merle B. Karnes, Ed.D.

The Developmental Guidelines were compiled as an instrument to be used by teachers to assess the present developmental level of the child. This information is then used to plan appropriate curriculum activities. The items were chosen from widely used scales of child development. The source is listed beside each item, allowing you to refer back to the original source for a more precise description of the item. The Guidelines are divided into two parts--birth through seventeen months and eighteen months through seventy-two months. The task areas are gross motor; fine motor; cognitive, linguistic, and verbal; self-help; social play (eighteen through seventy-two months only).

DEVELOPMENTAL PROFILE (ALPERN/BOLL)
Gerald Alpern and Thomas Boll
Psychological Development Publications

The Developmental Profile was designed to provide an efficient and accurate instrument which multidimensionally measures the development of children six months to twelve years of age. It is meant to be used as a screening device but contains enough information to be used in programming as well.

There are 217 items arranged by age into five scales. It can be administered in about thirty to forty minutes. The instrument was constructed so that it could be used and interpreted by people not specifically trained in psychometrics. It can be self-taught by professionals trained in testing. Others may require instruction and supervision.

The instrument was designed to use the interview technique, but one can also administer the items if desirable or necessary.

The authors report studies that indicate, construct and face validity of the instrument. They also report high scorer, reporter, test-retest reliability. Correlational studies have been done on the physical and academic scales but need to be done on the other three scales as well.

EARLY DETECTION INVENTORY
F.E. McGahan and C. McGahan
Follett Educational Corporation

The Early Detection Inventory measures general school readiness in preschool children. Areas of assessment are: social emotional behavior responses, readiness task (verbal self-awareness, concept development, awareness of left/right, awareness of body image), motor performance, vision, hearing, dental health, speech, medical history, and family and social history. Both the child and one of his parents are needed to complete the instrument. The Inventory is individually administered and paced. Administration time depends on the number of personnel assigned to the testing session. At least the following are needed: an experienced educational tester, a vision examiner, a hearing examiner, a dentist, and a speech therapist. Several are readily available for review. (Review from "School Readiness" HSTCR).

EVANSTON EARLY IDENTIFICATION SCALE
M. Landsman and H. Dillard
Follett Educational Corporation

The Evanston Early Identification Scale is a simple screening device for identifying children who can expected to have difficulty in school. It consists of one task, that of drawing a person. It was conceptualized from observations that children in the upper elementary grades who were having serious learning problems had performed poorly on kindergarten figure drawings. A twenty-five-point scale was developed, based on the absence of figure-drawing details and on correct position of body parts. The test is suitable for children aged five years, zero months to six years, three months. The children should previously have had a chance to become familiar with drawing materials. The test is not a diagnostic instrument; children who fall in the high-risk category should be referred for diagnosis and treatment. Their difficulties may be emotional, perceptual, or may arise from other causes. The test is now available in a field research edition. It has been standardized on 117 children and has demonstrated its screening efficiency.

FROSTIG DEVELOPMENTAL TEST OF VISUAL PERCEPTION
M. Frostig
Consulting Psychologists Press, Inc.

The Marianne Frostig Developmental Test of Visual Perception measures five operationally-defined perceptual skills: eye-motor coordination, figure-ground perception, constancy of shape, position in space, and spatial relationships. This is a paper-and pencil test designed for young children. Norms are given starting at age four, from which a perceptual quotient may be obtained. There are also a number of work-sheet-type, activity-oriented, remedial programs related to test results. Reviewers report the test format to be interesting to young children. (Review in Gearhart and Willenberg).

GESELL ACTION AGENT TEST
A Gesell
The Psychological Corporation

The Gesell Action Agent Vocabulary Test consists of forty items, such as "What Runs?", "What Flies?", "What Sails?", etc. The child is to supply the agent of the action. Norms are given for full years, beginning at age three. The test is described in Gesell, A. et. al., *The First Five Years of Life*, pp. 223-228. He recommends it as the outstanding language situation within the upper half of the preschool range, and says, "In addition to providing a measure of language comprehension, the test gives the opportunity to observe such matters as the ability to sustain attention and interest, tendencies toward perseveration or stereotype, confusion by similarities of sound or associated ideas, critical consideration of responses as opposed to random answering, tendencies to give up easily or go out of the field in the face of an increasingly difficult task, and other details which throw light on the child's personal-social stability and maturity."

GESELL DEVELOPMENTAL SCHEDULES
Gesell, A., and Associates
The Psychological Corporation

The Gesell Developmental Schedules assess the developmental level (or developmental quotient) of children from age four weeks to six years. Maturity is measured in four major fields of behavior: motor characteristics (postural reactions, prehension, locomotion, general body coordination, specific motor skills), adaptive (perceptual, orientational, manual and verbal adjustments, alertness, intelligence, constructiveness), language (soliloquy, dramatic expression, communication, comprehension), and personal-social (personal reactions to other persons and to the impacts of culture, adjustments to domestic life, property, social groups, community conventions). The schedules are individually administered by physicians. Several different forms (schedules) are available for children of varying ages. A number of props are needed for the test. Developmental norms for the items are available. No reliability or validity studies were available for review. (Review from "Infant Development" HSTCR).

GOLDMAN FRISTOE TEST OF ARTICULATION
R. Goldman and M. Fristoe
American Guidance Service, Inc.

The Goldman Fristoe Test of Articulation provides a method of assessing an individual's articulation of consonant sounds. There are three subtests. The Sounds-in-Words Subtest utilizes thirty-six pictures of familiar objects; the examiner records the child's articulation of speech sounds. The Sounds-in-Sentences Subtest consists of two stories read aloud by the examiner and illustrated by sets of pictures. In order to approximate speech production of ordinary conversational speech, the child is asked to recount each story in his own words using the pictures as memory aids. The Stimulability Subtest asks the child to pronounce a previously-misarticulated phoneme, given both visual and oral stimulation. A filmstrip is available as an alternate method of presenting the test, which the publishers say may be useful for testing immature, easily distracted, or mentally retarded children. The test is designed for children aged two and over, with the results to be recorded on a form which graphically portrays the child's articulatory profile. Percentile rank norms are available for males and females at three-month intervals from age six through sixteen.

GOODENOUGH HARRIS DRAWING TEST
F. Goodenough and D. Harris
Harcourt, Brace, Jovanovich, Inc.

The Goodenough Harris Drawing Test is a nonverbal test of mental ability. The child is asked to draw a man, a woman, and himself. Drawings are scored on the basis of presence or absence of certain characteristics--seventy-three for the man and seventy-one for the woman. There are also Quality Scales, which permit a much more rapid estimate of the child's level of maturity when a rough estimate will suffice. Users are cautioned against using this test to make diagnoses of mental impairment, since it is heavily affected by personality variables. It is most useful as a projective tool for clinical assessment. Norms are available for ages three to fifteen, separately for boys and girls, in the form of standard scores and percentile ranks. (Review in Allen and Allen).

HEAD START TEST COLLECTION
Educational Testing Service

The Head Start Test Collection is a set of six annotated bibliographies in the following areas: School Readiness Measures, Tests for Spanish-Speaking Children, Self-Concept Measures, Measures of Social Skills, Assessing the Attitudes of Young Children Toward School, Measures of Infant Development. One may request one or more of the bibliographies in the six areas. These bibliographies may be obtained free of charge.

INFANT BEHAVIOR INVENTORY
E. Scheafer, M. Aaronson

The Infant Behavior Inventory (for ages one to three) consists of 115 descriptions of possible infant behaviors (e.g. "Readily responds with a smile to a friendly person;" "Seems to enjoy most things that he does"). The observer describes the child, for each item, as "very much like," "somewhat like," "very little like," or "not at all like." Dimensions covered by the items are attentiveness, belligerance, cheerfulness, concentration, contentment, distractibility, enthusiasm, fatigue, fearfulness, gregariousness, hyperactivity, inquisitiveness, irritability, monotonous behavior, negative affect, negativism, passivity, perserverance, positive social response, rapidity, self-consciousness, verbal expressiveness, and withdrawal. A form for display is given, but there are no norms.

KINDERGARTEN EVALUATION OF LEARNING POTENTIAL
Wilson, J.A.R., amd Robeck, M.C.
Webster Division, McGraw-Hill Book Company

The Kindergarten Evaluation of Learning Potential predicts school success in the early grades based on the learning that a child actually does in kindergarten. It is designed as both a teaching and evaluation instrument. KELP items include skipping, color identification, bead design, bolt board, block design, calendar, number boards, safety signs, writing a name, auditory perception, and social interaction. The latter nine items are rated at three levels: association, concept formation, and creative self-expression. The items are taught by the teacher, who observes and records the accomplishment of the tasks over the entire garten year. Classroom materials, teaching tips, and a summary retention test are available. The authors report that stanine norms can be obtained on request. The results of a survey of teachers who have used KELP on their views of KELP's construct validity, correlations with Stanford-Binet, and predictive validities with teacher ratings (first grade) and Metropolitan Achievement Test scores are available. No reliability studies are reported. (Review from "School Readiness" HSTCR).

METROPOLITAN READINESS TESTS

G. Hildreth, N. Griffiths and M. McGauvran
Harcourt, Brace, Jovanovich, Inc.

Six subtests comprise the Metropolitan battery: word meaning, listening comprehension, perceptual recognition of similarities, recognition of lower-case alphabet letters, number knowledge, and perceptual-motor control (copying). In combination, these tests are intended to provide an assessment of children's development in skills that contribute to "readiness for first grade instruction." The Metropolitan battery is ordinarily given at the end of kindergarten or the beginning of first grade. Results may be used to classify pupils on a "readiness" continuum. Such a classification is presumed to be helpful for teachers who desire more efficient management of their instructional efforts. At least minimal skill in the use of writing instruments and paper is prerequisite for children to whom the Metropolitan is administered. However, no special training is needed by teachers for the administration and scoring of these tests. Norms are based upon a nationwide sample of beginning first graders. In general, the reliability of these tests is high and their predictive validity is encouraging. The Metropolitan is among the most popular of batteries currently used in public school kindergartens and primary grades. (Review from Evans).

MINNESOTA PRESCHOOL SCALE

Goodenough, F.L., and Others
American Guidance Service, Inc.

Assesses development of mental ability in children of age six months to five years. Two parallel forms are available. Items pertain to pointing out parts of the body or objects: naming familiar objects; copying; imitative drawing; block building; response to pictures; Knox cube imitation; obeying simple commands; comprehension; discrimination, recognition, or tracing of forms; naming objects from memory; colors, incomplete pictures; picture puzzles; digit spans; paper folding; absurdities; vocabulary; imitating clock hands; and speech. The test has verbal, nonverbal, and total scores for children three to five years of age, and total scores for younger children. The instrument is individually administered and paced. The examiner should have considerable experience in the testing of young children and some practice with the test materials. Age C scores and percent placement norms and I.Q. equivalents are available. Inter-form reliabilities, but no other technical data, are reported. (Review is from Infant Development HSTCR).

MISSOURI CHILDREN'S PICTURE SERIES
J. Sines, J. Pauker, L. Sines

The Missouri Children's Picture Series is a personality test which can be administered to children of varying ages and abilities. It consists of 238 simple line drawings, each on a numbered 3"x5" card. The pictures show a child engaged in a variety of activities and situations. The child is asked to decide whether each picture looks like something he would like to do. The child puts the cards that look like fun to him on one pile, the others on another. The examiner retrieves the piles and later sorts and scores the pictures. The manual says most children complete the test in fifteen minutes by themselves. It can be administered to nonverbal or physically handicapped children. Scoring aids are provided for the eight scales: conformity, masculinity-feminity, maturity, aggression, inhibition, activity level, sleep disturbance, and somatization. Standard score distributions, derived from test results of 3877 children, are given as "T" score equivalents, separately for males and females for each year from age five to sixteen.

MOVE-GROW-LEARN SURVEY
R. E. Orpet and L. L. Heustis
Follet Educational Corporation

The Move-Grow-Learn Survey was developed to assist classroom teachers, movement education supervisors, school psychologists, and other professional school personnel in evaluating selected aspects of a child's motor development. It is intended for use with the Frostig-Maslow, Move-Grow-Learn program and with Movement Education: Theory and Practice.

Eight broad areas of sensory-motor and movement skills are included: coordination and rhythm, balance, flexibility, strength, speed, balance, endurance (only children eight years old or older should be rated on endurance), and body awareness. For each sub-area, illustrative activities and room for comments is included.

This is not a standardized, psychometric instrument in which developmental norms are provided for each age level. The assessment is based upon the examiner's observations of the child in classroom, playground, and gymnasium activities.

Ratings are from one through five: 1=severely impaired; 2=mildly impaired; 3=adequate; 4=good; 5=excellent.

Children rated one or two need considerable training in the skill or skills in which they are deficient. Children rated three should have training; and children rated four and five can also benefit from movement education.

Move-Grow-Learn activities are suggested for additional training in skills in which a child is rated one, two, or three. (Review from publisher).

NORTHWESTERN SYNTAX SCREENING TEST
Laura Lee

This test was designed as a structured screening test for deficits in both expressive and receptive use of syntax for children three through eight years of age.

The test consists of a series of pictures. The procedure is structured for both the comprehension and production portions. It takes approximately twenty minutes to administer and does not require a great deal of experience to administer.

Norms are based upon 242 children between three and seven through eleven years. There is no published reliability data. Available from Dr. Laura Lee, Northwestern University, Evanston, Illinois 60201.

OSERETSKY TESTS OF MOTOR PROFICIENCY
E.A. Doll, Editor
American Guidance Service, Inc.

The Oseretsky Tests of Motor Proficiency is an adaptation of a very old test developed in Russia. In the present form, there are six tasks given for each age (whole years from four to sixteen). The tasks sample general static coordination, motor-speed, simultaneous voluntary movements, and performance without extraneous movements. The test requires twenty to thirty minutes to administer. In its use of age level tasks, it is similar to the Binet. Instructions are given in calculating the motor age.

PEABODY INDIVIDUAL ACHIEVEMENT TESTS
L.M. Dunn and F. Markwardt
American Guidance Service, Inc.

The Peabody Individual Achievement Test is an individually-administered, achievement-screening test in mathematics, reading, spelling, and general information. It requires thirty to forty minutes and use conventional basal-ceiling procedures. It yields six scores: mathematics, reading recognition, reading comprehension, spelling, general information, and total. Norms are given for ages five and up as grade equivalents, age equivalents, percentile ranks by age or grade and standard scores by age or grade. The test requires no writing--only oral or pointing responses. The Journal of Special Education, vol. 4, #4.

PIAGETIAN TASKS
N. Kohn, L. Kohlberg, R. Devries
The Cognitive Environment of Urban Preschool Children (two volumes)
Graduate School of Education
University of Chicago

Piagetian tasks have been used in research on the cognitive development of young children. They represent an attempt to assess the child's attainment of stages of development outlined by Piaget. A wide variety of tasks may be used to assess the same development outlined by Piaget. A wide variety of tasks may be used to assess the same developmental stages. The tasks in this collection are a dream interview (testing the child's understanding of the nature of dreams in contrast to "real" experiences), a number-conservation task, a length-conservation task, a liquid-conservation task, a class-inclusion task, and a ring-segment-illusion task. Procedures and scoring criteria are given.

PREPRIMARY PROFILE
H.J. Schiff, M.I. Friedman
Science Research Associates

The Preprimary Profile is a rating form on which the parent describes some areas of his child's experiences, for the benefit of his first teacher, to whom he is an "unknown quantity." Areas (unnamed on the form) in which parents give the information are self-care, classroom management (behavior with peers), skill development (muscular coordination), language development (reading and arithmetic readiness), and previous experience. Ratings are designed to be informative and non-threatening. For example, in the language development area, the parent can rate items such as "tells colors of things" and "tells time" as "not yet," "just beginning," or "very well." Self-care items such as "washes his hands and face" can be answered with "not yet," "needs a lot of help," "needs a little help," and "needs no help." The rating form is called Introduction to My Child. Also available is a letter to parents describing the scale. A review of the test (Journal of Special Education, Vol. 5, No. 1) suggests that in addition to giving the teacher insight into a child she has not yet encountered, it might also provide a useful forum for discussion between teacher and parent. There are no norms, but a section on "How to Interpret and Utilize Profile Results" is included in the Teacher's Handbook.

PRESCHOOL ATTAINMENT RECORD
Doll, E.A.
American Guidance Service, Inc.

The Preschool Attainment Record combines an assessment of physical, social, and intellectual functions in a global appraisal of children from birth to seven years of age. The Record includes eight categories of developmental behavior: ambulation, manipulation, rapport, communication, responsibility, information, ideation, and creativity. For each category, there is one item for each six-month age span. The item types, item arrangement, testing procedures, and interviewer qualifications are the same as for the Vineland Social Maturity Scale described later. Mean age for expected performance of each behavior is provided. Total scores may be converted to attainment ages or attainment quotients. No reliability or validity studies are yet available. (Review from Infant Development HSTCR).

PRESCHOOL INVENTORY

Caldwell, B.
Educational Testing Service

The Preschool Inventory was designed in relation to Project Head Start. Its purpose is to assess achievement in areas regarded as necessary foundations for early school success. These areas have been labeled concept-activation-sensory, concept-activation-numerical, personal-social responsiveness, and associative vocabulary. The Preschool Inventory has been used as a rough, diagnostic test; that is, to identify selected "cultural handicaps" and as a gross measure of the impact of Head Start experience on children. Limited norms are provided (based on the performance of children ages two to six and one-half identified as products of "lower-" and "middle-class" backgrounds). Like so many preschool tests, this inventory must also be administered individually. The reliability of this test appears to meet acceptable standards, although no empirical statement or validity is reported in the test manual. (Review from Evans, p. 340).

PRIMARY MENTAL ABILITIES

Thurstone, T.G.
Science Research Associates

The S.R.A. Primary Mental Abilities tests are designed to provide both multifactored and general measures of intelligence. The five "primary mental abilities" measured by the tests are verbal meaning (understanding of ideas expressed in words), number facility, reasoning, perceptual speed, and spatial relations. The test requires a little over an hour, and may be given to small groups. It is usually given in two sessions. The perceptual speed test requires timing. The test is given from a test booklet; no additional materials are required. Mental age equivalents for each part and for the total test are given. The test is designed for pupils in kindergarten and first grade, chronological ages 5.0 to 7.6 years.

SCHOOL READINESS SURVEY

Jordan, F.L., and Massey, J.
Consulting Psychologists Press

The School Readiness Survey is designed to help the parent understand the capacities and developmental needs of his child, aged four to six; the items require the child to choose an appropriate picture, figure, word, or symbol, or to answer orally. Subscores are: number concepts, discrimination of form, color naming, symbol matching, speaking vocabulary, listening vocabulary, and general information. S.R.S. is parent administered and paced. The total score and each subscore is related to likelihood of readiness. Suggestions as to how the parent can aid his child, in each area, to be ready for school are included. Cumulative percentage norms for total score and each subscore by sex are available. Test-retest (June/October) reliabilities and correlations of S.R.S. scores with kindergarten teachers' ratings are reported. (Review from "School Readiness" HSTCR).

STANFORD-BINET INTELLIGENCE SCALE
Houghton Mifflin

The Stanford-Binet Intelligence Scale in its present version (1960) is a result of successive refinements of the original Binet Scales developed in France around 1905. As revised, the Stanford-Binet is composed of tasks which require a variety of responses from children, including the identification of common objects, hand-eye coordinations, word definition, practical judgments, arithmetic computations, sentence completion, and problem interpretation. As such, the Stanford-Binet is based on the assumption that samples of verbal and sensory-motor behavior taken from a child of a given chronological age can serve as an indication of the quality or magnitude of that child's underlying mental ability. The Stanford-Binet is suitable for use with children as young as age two and its norms (1960 revision) extend to age eighteen. The intelligence quotient derived from the use of this scale is strongly predictive of academic achievement, particularly during the elementary school years. Thus, many users conceive of the Stanford-Binet primarily as a measure of scholastic aptitude. Impressive data in reference to the validity and reliability of this scale have accumulated over the many years of its use. (Review from Evans, p. 340).

STANFORD EARLY SCHOOL ACHIEVEMENT TEST: LEVEL I (SESAT)
Madden, R. and Gardner, E.F.
Harcourt-Brace-Jovanovich, Inc.

The SESAT measures cognitive abilities upon entrance into kindergarten, at the end of kindergarten, or upon entrance into first grade. SESAT-I is not a readiness test except in the sense that a grade three achievement test is a readiness measure for grade four. Subtests are: the environment (social and natural environment, social science, natural science), mathematics (conservation of number, space, volume; counting; measurement; numeration, classification, simple operations), letters and sounds (upper case letters, beginning sounds), and aural comprehension (item range from mere recall to adaptations of aspects of logic). The test is groups of fifteen per assistant for older children. Approximate time for administration is ninety minutes. No special training is needed. Total score and subscore stanines and percentile norms are available. Split-half reliabilities on the subtests are available. No validity studies are reported. (Review from "School Readiness" HSTCR).

TESTS OF BASIC EXPERIENCES (TOBE)

M.H. Moss
CTB/McGraw Hill

The TOBE indicates how well a child's experiences have prepared him for him introduction to many of the scholastic activities that he will encounter. The TOBE battery is available at Level K for preschool and kindergarten age children, and at Level L for kindergarten and grade one age examinees. Each battery contains the following five tests: general concepts, mathematics (fundamental concept, relationships, quantitative terms), language (vocabulary, sentence structure, verb tense, sound-symbol relationship, letter recognition, listening skills), science (observations, animals, humans, plants, machinery, weather), and social studies (social groups, social roles, customs, safety, human emotions). TOBE is group-administered and paced. It is recommended that one proctor be provided for each four to six children for preschool and kindergarten groups and one for each six to ten children in the first grade. Each test requires about twenty-five minutes to give (125 minutes in all). It is suggested that the five tests be given on five different days. No special training is needed to administer the test. The test may be hand scored or a test-scoring service is available if desired. Grade stanine, standard score, and percentile norms are reported for each test. Kuder-Richardson Twenty reliabilities are available. Test-retest reliability studies are in progress. Content validity was studied by use of a validation panel of kindergarten and grade one teachers and the results are reported. (Review from "School Readiness" HSTCR).

VALETT DEVELOPMENTAL SURVEY

Valett, R.E.
Consulting Psychologists Press

The Valett Developmental Survey evaluates various developmental abilities of children between the ages of two and seven, to aid in planning individualized learning programs. It consists of 233 tasks in the areas of motor integration and physical development (seventeen items), tactile discrimination (eleven items), auditory discrimination (thirty-six items), visual-motor coordination (nineteen items), visual discrimination (fifty-three items), language development and verbal fluency (thirty items), and conceptual development (sixty-seven items). The Survey is individually administered and paced. Some practice is needed to give the test. Many props, all inexpensive and readily available, are needed. The author considers the Survey incomplete by itself and recommends that it be supplemented with measures of family background, prior learning experiences, and subjective estimates of the child's motivation for learning, social judgment, interests, general adaptivity, and common sense. Age norms for each of the tasks are included. No other psychometric data was provided for review. (Review from "School Readiness" HSTCR).

VERBAL LANGUAGE DEVELOPMENT SCALE
Meacham, M.J.
American Guidance Service

The Verbal Language Development Scale is an extension of the communication portion of the Vineland Social Maturity Scale. It is an informant interview instrument for children from one month of age to fifteen years. It has the advantage of tapping the child's behavior in familiar settings. There are many items for the younger ages (talks, imitates sounds, uses names of familiar objects) and fewer but more complex descriptions for the older years. Definitions of behavior are given in the manual. Half credit is allowed for behaviors that are in an emergent state. Scores may be converted into a language age, which was standardized on a sample of 120 normal children. The scale consists of a total of fifty items--six on listening, thirty-one on speaking, five on reading, and eight on writing.

VINELAND SOCIAL MATURITY SCALE
Doll, E.A.
American Guidance Services, Inc.

The Vineland assesses progress toward social maturity, competence, or independence in subjects from birth to adulthood. Items are designed to elicit factual descriptions of the examinee's habitual or customary behavior as an established mode of conduct. The items are arranged in order of increasing difficulty and represent progressive maturation in self-help, self-direction, locomotion, occupation, communications, and social relations. Detailed descriptions of the behaviors tapped by each item are available. The mean age of expected performance of each behavior for normal subjects by total sample, by sex, for feeble-minded subjects, and item maturation curves are provided. Total scores may be converted to social ages or social quotients. The Scale is scored on the basis of information obtained in an interview with someone intimately familiar with the person scored, or the person himself. The interviewer needs practice and experience in the techniques involved. Illustrative interviews with subjects of various types and ages are available. Test-retest reliabilities, comparisons of social age and social quotients with chronological age, and item validation studies with normal and abnormal populations are reported. (Review from "Social Skills" HSTCR).

WALKER PROBLEM BEHAVIOR IDENTIFICATION CHECKLIST
Walker, H.M.
Western Psychological Services

The Walker Problem Behavior Identification Checklist is a quick way to identify children with behavior problems. It consists of fifty items which are checked as present or not in the particular child. It can be filled out by anyone familiar with the child. The items form five scales: acting-out, withdrawal, distractability, disturbed peer relations, and immaturity. Certain items might be chosen as indicative of a particular problem, of specific interest to a program--e.g. "is listless and continually tired" or "stutters, stammers, or blocks on saying words." Cut-off points for disturbance are included, but norms are given only for grades four, five and six. Items are appropriate for preschoolers, but centers would probably want to set up their own scoring systems. TADS has many checklists.

WATSON AND PICKLES SCALE FOR RECEPTIVE LANGUAGE
Ewing, A.G.
Educational Guidance and the Deaf Child, by A.G. Ewing

The Watson and Pickles Scale for Expressive and Receptive Language assesses the child's ability to comprehend and express spontaneous speech. It should be completed by someone who knows the child well, but a parent will probably require that a professional interpret the items. The scale covers the first three years of language development, with items listed according to increasing sophistication. Sample items are "attends purposefully to speech but shows no evidence of comprehension" and "understands speech with situational guidance." The rater is asked to describe or explain, or give examples for most items. There are neither scores nor norms; rather the scale gives an indication of the child's expression and how he indicates comprehension. The test is described in the CID bibliography.

WIDE RANGE ACHIEVEMENT TESTS
Jastak, J.F. and Jastak, S.R.
The Psychological Corporation

The Wide Range Achievement Test measures achievement in reading, spelling, and arithmetic from preschool through adulthood. Age norms are given for ages five and up. Scores are given in grade equivalents, standard scores, and percentiles. The reading subtest consists of recognizing and naming letters and naming words. The spelling subtest consists of copying marks resembling letters, writing the name, and writing words to dictation. The arithmetic subtest involves counting, reading, number symbols, solving oral problems, and performing written computations. The three subtests take twenty to thirty minutes.

C. Tests For Parents

BAUGHMAN AND DALSTROM PARENT INTERVIEW SCHEDULE
Baughman and Dalstrom, *Negro and White Children*

The Baughman and Dalstrom Parent Interview Schedule includes a number of well-stated questions about what the child is like and how the parents deal with him. It might be of use to project directors who wish parents to have more positive and/or more realistic perceptions of their child. The project would doubtless wish to modify the questions, but this interview might provide a model for those who wish to consider using a parent interview. This particular interview, which focuses on what the child is like, rather than on what he can do, would serve to inform the parent that the project is interested in the parent's feelings and in the child as a person, and not only in the child's condition. There is no scoring procedure given.

FELS PARENTAL BEHAVIOR RATING SCALES
Champney, "Measurement of Parent Behavior", *Child Development*, 1941, vol. 12, pp. 131-166.

The Fels Parental Behavior Rating Scales consist of thirty scales that deal with parental behavior in the home. Each scale has a title, and the points on the scale are well defined in a sentence or two. The first six scales deal with the home environment and the rest with the behavior of the parent specifically. Sample scale titles are: activeness of the home (Active-Inactive); general babying (Overhelps-Refuses to help); readiness of criticism (Critical-Uncritical). The rater would have to be quite familiar with the home to make an accurate rating on these scores.

The scales are intended as a non-evaluative research instrument, but it would not be difficult to decide on a range of desirable and undesirable ratings for each scale. This is especially true for such scales as "Clarity of Policy of Regulations and Enforcement", "Acceptance of Child", "Readiness of Explanation", and others.

The user would have to construct rating forms for the scales he wished to include.

HOW I SEE MYSELF SCALE
Ira J. Gordon
Institute for Development of Natural Resources

The How I See Myself Scale is a rating scale consisting of 40 items. Each item consists of two polar statements indicative of some aspect of the parent's self-perception. The parent responds by marking on a five-point scale a number to indicate a tendency toward one pole. For example:

People like me.	1 2 3 4 5	People don't kike me.
I don't like to try new things.	1 2 3 4 5	I like to try new things.
I'm very healthy	1 2 3 4 5	I get sick a lot.

The scale includes the verbal directions that are to be given to the parent. There are neither norms nor scoring instructions, but it is usually easy to determine which pole is the more desirable.

INVENTORY OF HOME STIMULATION
Bettye Caldwell
University of Arkansas, 814 Sherman, Little Rock, Arkansas

The Inventory of Home Stimulation consists of 72 items. A home visitor responds to these items with a yes or no for each item. The test contains items under the following categories: Frequency and Stability of Adult Contact, Developmental and Vocal Stimulation, Emotional Climate, Avoidance of Restriction, Breadth of Experience, Aspects of the Physical Environment, and Available Play Materials (for specific age groups). The scale is designed for use in homes with infants aged 0-3 years.

This inventory was designed for research purposes. Before using this scale you should be sure that the areas covered are those in which you expect to have an effect.

PARENTAL ATTITUDE RESEARCH INSTRUMENT
Earl Schaefer and Richard Bell, (described in "Development of a Parental Attitude Research Instrument", Child Development, 1958, vol. 29, pp. 339-361.

The Parental Attitude Research Instrument consists of 115 items that deal with the attitude of parents toward child rearing. In an abbreviated version of 80 items there are 14 subscales falling into three major areas. Democracy-domination includes encouraging verbalization, excluding outside influence, equalitarianism, and comradeship and sharing. Acceptance-rejection includes breaking the will, irritability, rejection of home-making role, avoidance of communication, and dependency of mother. Indulgence-autonomy includes acceleration of development, intrusiveness, fostering dependency, and approval of rivalry.

This test is described in Johnson and Bommarito and is included in The Antecedents of Self Esteem, by Stanley Coopersmith.

PORTER PARENTAL ACCEPTANCE SCALE
Blaine R. Porter

The Porter Parental Acceptance Scale is composed of 40 multiple choice items designed to measure parental acceptance. Four dimensions of acceptance are included: respecting the child's feelings, valuing his uniqueness, recognizing and encouraging autonomy, and unconditional love. Information on how item response should be weighted and converted into scores on these four subscales is included.

The first ten items ask the parent to indicate the degree of feeling of affection for the child (much more than usual to much less than usual) under different circumstances.

The scale is further described in "Measurement of Parental Acceptance of Children," *Journal of Home Economics*, March 1954, vol. 46, no. 3. It is available from Blaine M. Porter, 1206 Smith Family Living Center Brigham Young University, Provo, Utah 84601.

PROJECT HEAD START NATIONAL IMPACT STUDY PARENT INTERVIEW STUDY
National Impact Study
Educational Testing Service, Rosedale Road, Princeton, N.J. 08540

The Head Start Parent Interview covers a number of areas: parent opinion of Head Start, parent home enrichment practices, parent opinion of child and ways of dealing with him, parent aspirations and expectations for child, and others.

SARASON ADJECTIVE CHECK-LIST AND PARENT INTERVIEW
Seymour Sarason, *Anxiety in Elementary School Children*

The Sarason Parent Interview attempts to assess the antecedents of childhood anxiety, and provides some excellent model questions on the parent's feelings and practices toward his child. The Adjective Check-list is a rating scale on which the parent rates his child on various dimensions according to the tendency toward one of the adjective poles.

The checklist might be use to tap parent's attitude toward the child in such areas as accuracy (compared with staff observation) or positiveness (on those dimensions which are evaluative).

SHOBEN USC PARENT ATTITUDE SURVEY
E.J. Shoben, "The Assessment of Parental Attitudes in Relation to Child Adjustment", *Genetic Psychology Monograph*, 1949, vol. 39, pp. 101-148.

The USC Parent Attitude Survey consists of 85 statements to which the parent may respond on a five point scale according to the degree of agreement with the statement. Items are categorized into three groups -- ignoring, dominating, and possessive.

A project director may have reservations about the use of this scale. It may be that the attitudes measured by the survey can not be changed by a parent program. Furthermore, the director may choose not to try to influence the parent's child-rearing philosophy.

STATE-TRAIT ANXIETY INVENTORY

C. Spielberger, R. Gorsuch, and R. Lushene
Consulting Psychologists Press

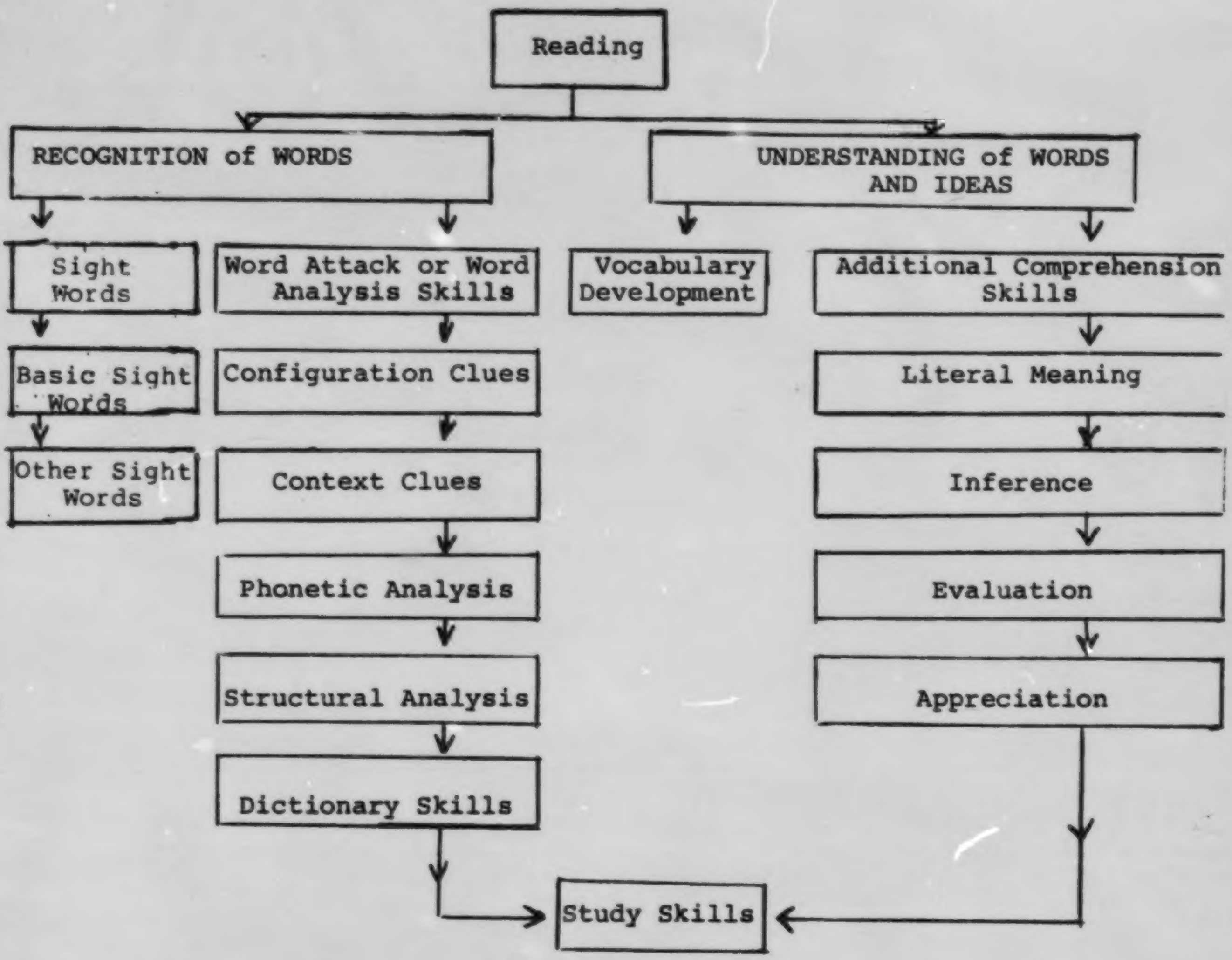
The State-Trait Anxiety Inventory is designed to measure two types of anxiety - state anxiety and trait anxiety. State anxiety is conceptualized as a transitory emotional state or condition that is characterized by subjective, consciously perceived feelings of tension and apprehension. Trait anxiety refers to relatively stable individual differences in anxiety proneness. The test includes two scales - one that measures state anxiety, and which has instruction to the subject to report how he feels at this moment, and another tat measures trait anxiety and has instruction to report how he generally feels.

For the state anxiety scale, the subject answers: (1) not at all, (2) somewhat, (3) moderately so, or (4) very much so, to 20 statements.

For the trait anxiety scale, the subject can mark: (1) almost never, (2) sometimes, (3) often, or (4) almost always, to 20 statements. According to the manual, persons with high trait anxiety will respond to situations with more state anxiety. They suggest that the state scale might be readministered over time to measure the level of transitory anxiety. It can be completed by individuals with a fifth or sixth grade reading level. Norms are available for college freshmen or other student groups.

II. Reading

A. Framework of Reading Skills


Reading
RECOGNITION of WORDS
UNDERSTANDING of WORDS AND IDEAS
Sight Words
Word Attack or Word Analysis Skills
Vocabulary Development
Additional Comprehension Skills
Basic Sight Words
Other Sight Words
Configuration Clues
Context Clues
Phonetic Analysis
Structural Analysis
Dictionary Skills
Literal Meaning
Inference
Evaluation
Appreciation
Study Skills

Adopted From: Eldon Ekwell, Teacher's Handbook or Diagnosis and Remediation in Reading, Allyn and Bacon, Inc., Boston (C), 1977, page 17, Reprinted with permission.

B. SCOPE AND SEQUENCE IN READING

I. READING READINESS SKILLS

Readiness skills are those "prereading" skills needed by the child to serve as foundation skills in learning to read. They are normally learned in the preschool, kindergarten and first grade years. Although not all will be mastered prior to beginning formal reading instruction (Preprimer+), a majority of the subskills under each of the following eight areas should be mastered:

A. PERCEPTUAL SKILLS

1. Auditory
    a. Figure-ground
    b. Discrimination of sounds
    c. Recognition of rhyming sounds
    d. Memory (ability to repeat)
    e. Sound-letter association
    f. Sound position in a word
    g. Hears beginning sounds
    h. Hears ending sounds
    i. Verbal reproduction of 2- and 3-syllable words

2. Visual
    a. Memory of single figures
    b. Discrimination
    c. Object size differences
    d. Detail differences in objects and words
    e. Orientation skills
        (1) left-to-right progression
        (2) position in space
        (3) reversals and inversions (single figures)
        (4) word reversals and inversions
        (5) letter-sequence
        (6) figure-ground
        (7) closure
        (8) left and right hand

B. MOTOR SKILLS

1. Gross motor (general physical coordination)

2. Fine motor (eye-hand coordination)
    a. Tracing lines, objects, etc.
    b. Copying letters, numbers, and shapes
    c. Coloring neatly
    d. Cutting (with scissors)
    e. Pasting

3. Favors right or left hand

II. WORD ATTACK SKILLS LIST

Word attack skills are those "sounding" and "word analysis" skills which one uses to decode (or unlock) and read unfamiliar printed words. Three general types of word attack skills can be identified:

A. CONSONANT SOUNDING

1. Individual Consonants
   a. Beginning Sounds
   b. Ending Sounds
2. Consonant Blends
   a. Two-letter Blends
   b. Three-letter Blends
   c. Final Blends
3. Consonant Digraphs
4. Variant Consonant Sounds
5. Silent Consonant Letters

B. VOWEL SOUNDING

1. Short Vowels
2. Long Vowels
3. "R" Controlled Vowels
4. Vowel Diphthongs
5. Vowel Digraphs
6. Miscellaneous Vowel Sounds
7. Pronunciation Rules (v̆c   cv̆   v̆v̸   v̄ce̸)

C. STRUCTURAL ANALYSIS

1. Rhyming
2. Compound Words
3. Contractions
4. Plurals
5. Possessives
6. Verbs
7. Roots and Affixes
   a. Roots
   b. Prefixes
   c. Suffixes
8. Syllabication (vc/cv   v̄/cv   v̆c/c   /_le   p/r/s)
9. Adjectives
10. Homonyms
11. Synonyms
12. Antonyms
13. Heteronyms
14. Accent

III. COMPREHENSION SKILLS LIST

Comprehension skills are those "listening" and "reading" skills which one uses to derive meaning from the printed page. Three general types of comprehension skills can be identified:

A. LITERAL COMPREHENSION (understanding and recall of actual stated facts)

1. Format
    - a. Pictures
    - b. Punctuation
    - c. Typographical Marks
2. Word Meaning
    - a. Synonymns, Antonyms, Homonyms
    - b. Prefixes, Roots, Suffixes
    - c. Multiple Meanings
    - d. Classification
    - e. Context Clues
3. Main Idea
4. Details
5. Sentence Meaning
6. Sequence/Organization
7. Directions
    - a. Oral
    - b. Written

B. INFERENTIAL COMPREHENSION (to derive by reasoning and drawing conclusions)

1. Sensory Impressions
2. Characterization & Feelings
3. Setting & Time
4. Author's Tone, Mood and Purpose
5. Perceiving Relationships
6. Comparison & Contrast
7. Drawing Conclusions & Generalizing
8. Predicting Outcomes
9. Cause and Effect

C. CRITICAL READING (evaluation in terms of experience)

1. Evaluation: True or False
2. Validity - Proof - Fact of Opinion
3. Figures of Speech
4. Propaganda & Advertising Techniques

C. SPECIFIC TEACHER COMPETENCIES IN READING

I. General Knowledge

A. Developmental Reading

The teacher:

1. understands basic theories related to the field of reading
2. understands how these theories influence the teaching strategies and the materials used in reading instruction
3. understands the physical, psychological, and environmental correlates of reading
4. understands the skills related to reading readiness
5. understands the sequence of skills leading to the development of the mature reader
6. understands the components, focus, and approaches associated with developmental reading programs
7. understands the relationship of developmental reading instruction to corrective and remedial reading instruction

B. Specialized Reading Instruction

1. Corrective Reading
   1. understands that corrective reading instruction is as a system for planning and delivering classroom instruction to students who experience minor deficiencies in the elements of developmental reading
   2. understands the type of student who will benefit from such instruction
   3. understands systems that may be used to implement such instruction in the regular classroom, on an itienerant basis, or in a self-contained classroom

2. Remedial Reading
   1. understands the remedial reading instruction is as a system for delivering intensive individualized instruction to students who have major reading problems in word recognition, comprehension, and fluency
   2. understands word recognition skills, including:
      - 2.1 context analysis
      - 2.2 sight words
      - 2.3 phonic analysis
      - 2.4 structural analysis
      - 2.5 dictionary analysis
      - 2.6 specialized vocabulary

3. understands various approaches to reading comprehension; these include:
   - 3.1 skills (locating main idea, inference, etc.)
   - 3.2 taxonomy of skills
   - 3.3 imagery
   - 3.4 models
   - 3.5 correlational
   - 3.6 factor analytic
   - 3.6 readability
4. understands comprehension skills, including:
   - 4.1 vocabulary
   - 4.2 semantics
   - 4.3 syntax
   - 4.4 imagery
   - 4.5 specific comprehension skills (locating the main idea, following a sequence, inference, noting detail, etc.)
   - 4.6 critical reading skills
   - 4.7 meaning in phrases, thought units, sentences, paragraphs, and discourse
5. understands the skills inreading fluency and reading rate involving both oral and silent reading
6. understands the interrelationship of reading skills development to other content areas, e.g., written and oral language, spelling, listening
7. understands the skills associated with problems in structure and syntax
8. understands the skills associated with problems in reading technical or content specific information

II. Assessment

A. Screening

1. has knowledge of appropriate instruments and techniques for general screening for reading
2. can administer and interpret such instruments and techniques
3. can identify those students for whom additional assessment and diagnostic evaluations are needed

B. Evaluation

1. has knowledge of the appropriate instruments and techniques for specific assessment of the student's level of reading achievement and the areas that warrant specific attention

C. Diagnosis

1. can select and administer formal and informal diagnostic instruments for those specific skills related to reading
2. can interpret diagnostic data to specify problems in reading
3. can use the formal and informal data to plan for appropriate reading instruction and intervention programs

D. Formative/Summative

1. can develop and use tests to monitor students' ongoing and final level of mastery

III. Instruction

A. Corrective Reading

1. can plan and implement, instruction for minor problems associated with gaps or deficiencies in the developmental reading process
2. can use materials to teach the developmental and corrective reading process, e.g., basal reading programs, sight word and phrase cards, specific skill development materials

B. Remedial Reading

1. can plan, and implement, intensive individualized reading instruction in the skill areas associated with remedial reading
2. can use special approaches related to intensive reading instruction
3. can use materials, approaches, and techniques that have application to specific types of reading problems
4. can plan and deliver instruction that will accomodate the development of reading skills in the content areas
5. can deliver instruction in the development of reading skills associated with problems in technical or content specific areas
6. can identify and secure the services of additional appropriate professional resources to meet specific needs
7. can design and deliver an individualized reading program to the student which assures appropriate progress, alterations, goal achievement, etc.
8. can work with others involved in the student's educational program to assure that instruction in reading is integrated into the whole curriculum and that appropriate progress is assured

From: "Code of Ethics and Competencies for Teachers of Learning Disabled Children and Youth", Division for Children With Learning Disabilities, 1978, pages 12-15, reprinted with permission.

D. Reading Tests

I. Achievement Tests With Reading Sections:

Test	Grade Level	Reading Skills
California Achievement Test (Tiegs & CLark, 1963)	K-14	Vocabulary, comprehension
Comprehensive Tests of Basic Skills (CTB/McGraw-Hill, 1968)	K-12	Vocabulary, comprehension
Metropolitan Achievement Tests (Durost, Bixler, Wrightstone, Prescott & Balow, 1971)	2.5-9.5	Word knowledge, reading
Peabody Individual Achievement Test (Dunn & Markwardt, 1970)	K-12	Reading recognition, comprehension
SRA Achievement Series (Thorpe, Lefever & Naslund, 1968)	1-9	Vocabulary, comprehension
Wide Range Achievement Test (Jastak & Jastak, 1965)	Preschool and up	Letter and word recognition

II. Group Reading Tests:

Test	Grade Level	Reading Skills
California Achievement Test (Tiegs & Clark, 1970)	1-14	Vocabulary, reading comprehension
Gates-MacGinitie Reading Tests (Gates & MacGinitie, 1965)	1-9	Vocabulary, comprehension speed, and accuracy
Iowa Silent Reading Tests (Greene, Jorgansen, & Kelley, 1956)	4-14	Rate, comprehension, directed reading, word meaning, sentence meaning, paragraph comprehension and location of information

II. Group Reading Tests: continued

Test	Grade Level	Reading Skills
Silent Reading Diagnostic Tests (Bond, Clymer, & Hoyt, 1955)	3-6	Word recognition, syllabication, root words, word elements, beginning sounds, letter sounds, and rhyming
Stanford Diagnostic Reading Tests (Karlsen, Madden, & Gardner, 1966)	2.5-8.5	Comprehension, vocabulary, auditory discrimination, syllabication, beginning and ending sounds, blending, and sound discrimination

III. Word Analysis Tests:

Test	Grade Level	Skills Measured
California Phonics Survey (Brown & Cottrell, 1963)	7-13	Long vowels, short vowels, and other vowels; consonant blends and digraphs; consonant-vowel reversals; configuration; word endings; negations; opposites; sight words and rigidity.
Phonics Knowledge Survey (Durkin & Meshover, 1964)	All	Letter names; consonant sounds; long and short vowels; vowel generalizations; consonants blends; digraphs; vowel combinations; syllabication; beginning consoant combinations; and special sounds.
Roswell-Chall Diagnostic Test of Word-Analysis Skills (Roswell & Chall, 1959)	2-6	Consonants and consonant digraphs; short vowel sounds; vowel combinations; final e rule and syllabication rules.
Sipay Word-Analysis Tests (Sipay, 1974)	All	Letter names, symbol-sound association; consonant, vowel, consonant trigrams; initial and final consonant blends and digraphs; vowel combinations; open syllables; final e rule; silent consonants; visual blending; contractions; and others.

IV. Reading Diagnostic Tests:

Test	Grade Level	Skills Measured
Gates-McKillop Reading Diagnostic Tests (Gates & McKillop, 1962)	First-7th	Oral reading, flash words, untimed words, flash phrases, knowledge of word parts, reorganizing visual forms of sounds, auditory blending
Durrell Analysis of Reading Difficulty (Durrell, 1955)	Nonreading 6th	Oral and silent reading, listening comprehension, word recognition and analysis, naming letters, visual memory of words, sounds, learning rate, spelling, handwriting
Diagnostic Reading Scales (Speche, 1972)	First-6th	Oral reading, silent reading, auditory comprehension
Botel Reading Inventory (Botel, 1962)	Pre-K to 4th	Word recognition, word opposites, phonics
McCullough Word Analysis Tests (McCullough, 1963)	4th-6th	Phonics, syllabication
Wisconsin Tests of Reading Skill Development (Kamm, Miles, VanBlericom, Harris and Stewart, 1972)	K-8th	Word Attack
Woodcock Reading Mastery Tests (Woodcock)	K-12th	Letter and word identification, word attack, word and paragraph comprehension
Grey Oral Reading Test (Grey and Robinson,1967)	K-12th	Oral reading
Doren Diagnostic Reading Test of Word Recognition Skills (Doren, 1973)	First-4th	Word recognition

From: Gerald Wallace and Stephen C. Larsen, Educational Assessment of Learning Problems: Testing for Teaching: (C) 1978, by Allyn and Bacon, Inc., Boston, Reprinted with permission.

E. Reading - Elementary Level Materials

Word Attack Skills

Materials Format: Title:
Skills emphasis:
Reading level:
Publisher:

T: DISTAR Reading I and II.
S.E.: Step by step program to teach beginning reading with emphasis on cracking the code.
R. .: K-2
Pub.: Science Research Associates

T: Durrell-Murphy Phonics Practice Program.
S.E.: Phonics picture cards
R.L.: Beginning reading
Pub.: Harcourt Brace Jovanovich

T: Edmark Reading Program.
S.E.: Sight word approach teaching a 150-word vocabulary including programming for comprehension and use of the words. This is a complete program providing carefully sequenced varied student activities.
R.L.: Beginning reading
Pub.: Edmark Associates

T: Suggestive Reading Skills.
S.E.: A series of nonconsumable booklets for developing eight major reading skill areas - understanding word groups, understanding questions, syllabication, using an index, mastering multiple meanings, recognizing word relationships.
R.L.: Primary and Intermediate
Pub.: Dexter and Westbrook, Ltd.

T: i/t/a Early-to-Read Program. Revised
S.E.: Uses i/t/a (Initial Teaching Alphabet)
R.L.: Beginning reading
Pub.: Initial Teaching Alphabet Publishing Co.

T: Reading Incentive Language Program.
S.E.: High interest-low vocabulary for the low motivated student with sequential skill development. Subjects include Custom Cars, Drag Racing, Motorcycle Racing, etc.
R.L.: Intermediate
Pub.: Bowmar

T: Language Experiences in Reading Programs.
S.E.: Teaching beginning reading through the language experience approach.
R.L.: Beginning reading.
Pub.: Encyclopedia Britannica Education Corp.

T: Lift-off to Reading.
S.E.: A programmed beginning reading approach
R.L.: Beginning reading
Pub.: Science Research Associates

T: Phonetic Keys to Reading.
S.E.: A phonic approach to beginning reading with books, cards and charts.
R.L.: 1-4
Pub.: Economy Co.

T: Phonics and Word Power: A Sequential Program.
S.E.: A multiple approach to phonics including basic word attack skills, independence in word recognition and syllabication through auditory and visual modalities.
R.L.: Beginning reading - 3
Pub.: American Education Publications

T: The New Phonics We Use Series.
S.E.: A workbook format to help children master basic phonics skills that can supplement any reading program.
R.L.: Beg. - 6
Pub.: Lyons and Carnahan.

T: Phonics with Write and See.
S.E.: Workbook format that provides supplementary self-correcting phonics exercises for students using a code emphasis reading series.
R.L.: Beg. - 3
Pub.: Appliton-Century-Crofts/New Century

T: Reading Through Phonics.
S.E.: Provides specific quidance in the word analysis skills development of a beginning reading program.
R.L.: Beg. - 4
Pub.: Educational Activities

T: Vowel Sounds/A Self-Instructional Modalities Approach.
S.E.: The student hears vowel sounds, sees vowels in word context, and manipulates teaching aids.
R.L.: Beg. - 6
Pub.: Milton Bradley Co.

T: Reading Essentials Series.
S.E.: A phonetic and structural analysis program that includes complete instructions to aid the teacher.
R.L.: 1-8
Pub.: Steck-Vaughn Co.

T: Orton Reading Program.
S.E.: A phonics based program of teaching reading divided into three major components: 1) background materials on English language and phonetic structure, 2) principles of teaching phonics with a multisensory approach, 3) a twenty-two sequenced instructional program
R.L.: Beginning reading
Pub.: Educator's Publishing Service, Inc.

T: Merrill Linguistic Readers.
S.E.: This is a sequential basal reading program using a linguistic approach. It prepares students for reading independence.
R.L.: Beg. - 6
Pub.: Merrill Publishing Co.

T: SRA Reading Program.
S.E.: A basal reading series with a linguistic approach.
R.L.: 1-6
Pub.: Science Research Associates

T: The Palo Alto Reading Program: Sequential Steps in Reading.
S.E.: A programmed linguistic approach to beginning reading.
R.L.: Beginning reading
Pub.: Harcourt Brace Jovanovich

T: The I Can Read Series.
S.E.: The series that follows a linguistic progression compatible to other reading programs. A child can read a book after initial instruction in the sounds of only a few letters.
R.L.: K-1
Pub.: Behavioral Research Laboratories

T: The Herman Method for Reversing Reading Failure.
S.E.: A complete remedial program in a carefully controlled reading sequence that is correlated with spelling and handwriting instruction. This multisensory program includes the teaching of decoding, sight words, structural analysis, contextual clues, dictionary skills and comprehension.
R.L.: Beg. - 6 for students in grades three through 12
Pub.: Romar Publications, Inc., 4700 Tyrone Ave., Sherman Oaks, Ca. 91423

T: Sullivan Reading Program.
S.E.: A complete reading program through a workbook format.
R.L.: Beg. - 6
Pub.: Behavioral Research Laboratories

T: Peabody Rebus Reading Program.
S.E.: The use of rebus pictures for teaching beginning reading.
R.L.: Beginning reading
Pub.: American Guidance Service

T: The Phonovisual Method.
S.E.: A series of words, charts, manuals and cards for teaching phonics.
R.L.: K-3
Pub.: Phonovisual Products

T: Remedial Reading Skills.
S.E.: Heggi, Kirk, Kirk Method exercises to develop skills in phonics and word recognition.
R.L.: 1-3
Pub.: George Wahr Publishing Co.

T: Alphabet Animals.
S.E.: A sight and sound approach to teach the names and sounds of the alphabet with instruction of printing of letters.
R.L.: Beginning reading
Pub.: Benefic Press

T: Basic Reading: Keys to Reading Program.
S.E.: A comprehensive reading program that teaches the pupil to employ context clues, picture clues, configuration and word meaning as aids in decoding new words. Includes the introduction of sound-symbol relationships, linguistic patterns, and procedures for sounding words.
R.L.: 1-6
Pub.: Economy Co., Inc.

T: Remedial Training for Children with Specific Disabilities in Reading, Spelling and Penmanship.
S.E.: The A. Gillingham and B.W. Stillman approach based on the association of visual, auditory and kinesthetic elements to form the language triangle.
R.L.: Grades 3-6
Pub.: Educator's Publishing Service, Inc.

T: Band Street Readers.
S.E.: A basal reading program which emphasizes shared experiences, oral language, useful words and concepts of city children.
R.L.: Grades 1-3
Pub.: Macmillan Co.

T: Cracking the Code.
S.E.: A reading book and workbook format which teaches decoding to students who have not developed independent word attack skills.
R.L.: Grades 4-9
Pub.: Science Research Associates, Inc.

T: Tutortapes System.
S.E.: A system to aid basic reading instruction and reinforcement using audiotutorial cassettes. Evaluation is on-going with prescription sheets to provide direction to the student for moving through learning station activities.
R.L.: Grades 1-2
Pub.: Science Research Associates, Inc.

T: Continental Press Publications
S.E.: A variety of liquid duplicating masters, individual pupil books, transparencies, filmstrips and boxed manipulative instructional materials used to supplement reading programs.
R.L.: K-12
Pub.: The Continental Press, Inc. Elizabethtown, PA. 17022

T: Primary Reading Reinforcer Series. Intermediate Reading Reinforcer Series.
S.E.: A variety of game kit format materials used to reinforce phonetic analysis, structural analysis, sight word and comprehension skills.
R.L.: K-6
Pub.: I.E.S.S., Inc. P.O. Box 432, Kirnersville, N.C. 27284

T: The News and Observer/Raleigh Times Teach Reading and Math*
S.E.: Reinforcement Activities for word attack and comprehension skills building through the use of the newspaper. Specific suggestions are noted within the sample newspaper.
R.L.: K-12
Pub.: News and Observer Publishing Co. *The Charlotte and Fayetteville newspapers also have this service available. Check with your local newspaper about a similar service.
Newspaper in Education Program
The News and Observer Raleigh Times
215 S. McDowell St.
Raleigh, N.C. 27602

Reading - Elementary

Comprehension Skills

T: Specific Skills Series.
S.E.: Comprehension exercises in non-consumable booklet format. Each booklet emphasizes the development of one reading skill on one reading level. Comprehension skill exercises include: locating the answer, following directions, using the context: getting the facts, working with sound, drawing conclusions and getting the main idea.
R.L.: 1.0 - 6.0
Pub.: Barnell Loft, Inc.

T: Standard Test Lessons in Reading (McCall-Crabbs).
S.E.: Paperback booklets with short reading selections and comprehenion questions.
R.L.: 3-7
Pub.: Teachers College Press

T: Reading Thinking Skills.
S.E.: Preprinted comprehension masters for liquid duplicating.
R.L.: Pre-primer - 6

T: New Reading Skilltext Series.
S.E.: Reading comprehension workbooks
R.L.: 1-6
Pub.: Charles E. Merrill

T: Play the Game Series.
S.E.: Stories about events in the lives of famous athletes emphasizing courage and sportsmanship.
R.L.: 2.5 - 4.0
Pub.: Bowmar

T: Reading Skills Builders.
S.E.: Magazine format with short reading selections and accompanying comprehension skills.
R.L.: 1-8
Pub.: Readers Digest Services

T: Radio Reading Series I.
S.E.: Each story is presented as a directed reading/listening lesson that contains a story booklet, tape cassette and series of follow-up activities. Booklets deal with a high interest tale about a true or little known fact about a famous person, place or thing.
R.L.: 3-5
Pub.: Psychotechnics, Inc.

T: Sport-Action Skill Kits.
S.E.: Kits with read along cassette tapes to promote development of pronunciation, enunciation and infliction, comprehension, recall of story content, etc.
R.L.: Intermediate
Pub.: Troll Associates

T: Phoenix Reading Series - Levels A,B,C.
S.E.: A reading program designed for children who have reached the middle grades without learning to read. The two formats are: 1) the Photo Reader which presents ideas, concepts and information developed around a single theme and 2) the Action Reader which provides short reading selections relating to the Photo Reader theme.
R.L.: 2.75-3.75
Pub.: Prentice-Hall, Inc.

T: Score Reading Improvement Series.
S.E.: Score gives middle grade students interesting practice with basic comprehension and word-analysis skills in a kit format.
R.L.: Intermediate
Pub.: Scholastic Book Service

T: Target Reading
S.E.: Reading skills stressed include comprehension, dictionary skills, fun with words, paragraph study, sentence study, study skills and word study.
R.L.: 1.0-6.0
Pub.: Laidlaw Publishing

F. Reading - Secondary Level Materials

Word Attack Skills

T: Edmark Reading Program.
S.E.: Sight word approach teaching a 150 word vocabulary including programming for comprehension and use of the words. This is a complete program providing carefully sequenced varied student activities.
R.L.: Beginning reading
Pub.: Edmark Associates

T: Improving Reading Skills - System 80 Kits A,B,C.
S.E.: An Adult Literacy Program to be used with the System 80 programmed instructor. Consists of basic vocabulary.
R.L.: 6.0 - adult
Pub.: Borg-Warner, Educational Systems

T: Merrill Linguistic Reading.
S.E.: This is a sequential basal reading program using a linguistic approach. It prepares students for reading independence.
R.L.: Beginning - 6
Pub.: Merrill Publishing Co.

T: Multiple Meanings.
S.E.: For developing practice with meanings of words and their multiple definitions
R.L.: 4-6 for grades 5-12
Pub.: Curriculum Associates

T: New Streamlined English Series.
S.E.: Phonic word attack skills
R.L.: PP-5 for 7 to adult
Pub.: New Readers Press

T: Picto-cabulary Series.
S.E.: Illustrated booklets and spirit masters for sight word approach with Basic Words, Words to Eat, Words to Wear, Words to Meet, etc.
R.L.: 1-9
Pub.: Dexter and Westbrook, Ltd.

T: Precise Word.
S.E.: Developing the precise meanings of words.
R.L.: 7 - adult
Pub.: Curriculum Associates

T: Read and Reason Activity Cards.
S.E.: Language arts activities: antonyms, synonyms and grammar.
R.L.: 3-4 for Intermediate and Junior High
Pub.: Frank Schaffer

T: Reading Incentive Program, Lab. 20.
S.E.: Sequential skill development for the "turned-off" student.
R.L.: 3-5 for the elementary to senior high school student
Pub.: Bowmar

T; Vocabulary Improvement Practice.
S.E.: Vocabulary growth and classification of words for the secondary student.
R.L.: 4-12
Pub.: Harcourt Brace Jovanovich

T: Supportive Reading Skills.
S.E.: A series of nonconsumable booklets for developing eight major reading skills areas - understanding word groups, understanding questions, syllabication, using an index, mastering multiple meanings, recognizing word relationships, etc.
R.L.: 1-8
Pub.: Dexter and Westbrook, Ltd.

T: Troubleshooters I and II. Comprehension
S.E.: Word attack, spelling, punctuation, and vocabulary for junior high level students who need a nongraded basic language program
R.L.: 1-7
Pub.: Houghton-Mifflin

T: Words and Phrases.
S.E.: Tachistoscope materials - each word is flashed on the screen to help build a strong sight association. This technique is important in commanding attention and stressing visual memory. Each word is reintroduced as part of a meaningful phrase.
R.L.: 4-8
Pub.: Psychotechnics

T: World of Vocabulary.
S.E.: Vocabulary development for the secondary level.
R.L.: 3-7
Pub.: Learning Trends (Globe Book Co.)

Reading - Secondary Level Materials

Comprehension Skills

T: Action Libraries.
S.E.: Reading development and enrichment for secondary students who are behind in reading.
R.L.: 2.0-3.9
Pub.: Scholastic Book Services

T: The American People: Part I and Part II.
S.E.: Word study, reading comprehension, written self-expression and test-taking skills for secondary and adult level students.
R.L.: Intermediate
Pub.: Steck-Vaughn

T: Archie Multigraphic Kit.
S.E.: Sequence, main idea and detail, influence, draw conclusions, character analysis, figurative language, description, cause/effect, fact/opinion and relevant detail for junior and senior high levels.
R.L.: 3.5-5.5
Pub.: Archie Enterprises

T: Contact Series.
S.E.: Reading, writing, discussion, decision making motivation for the hard-to-reach secondary student.
R.L.: 4-6
Pub.: Scholastic Book Services

T: Countries and Cultures.
S.E.: Reading and comprehension for secondary students
R.L.: 4.5-9.5
Pub.: Science Research Associates

T: Croft Skillpacks, Level II.
S.E.: Reading comprehension skills in the areas of literal, interpretive, analytic and critical for intermediate and junior high levels.
R.L.: 4-6
Pub.: Croft

T: News for You.
S.E.: Reading comprehension skills for 7-adult.
R.L.: A edition, 3-4, B edition - 4-5
Pub.: New Readers Press

T: Pal Paperback Kit.
S.E.: Recreational reading and comprehension skills for grades 5-12.
R.L.: .5 - 5.5
Pub.: Xerox Education Publications

T: People and the City Program.
S.E.: This program is for low achievers in grades 9-11 focusing on life in the city - Crime and Safety, Setting a Job, Who Needs School?, etc.
R.L.: 5.0-6.0
Pub.: Scott Foresman Spectra Program.

T: Reading for Understanding.
S.E.: Boxed multileveled selections graduated in difficulty designed to develop comprehension skills.
R.L.: 5-12
Pub.: Science Research Associates

T: Reading Thinking Skills.
S.E.: Study Skills and specific reading skills .
R.L.: 1-6
Pub.: Continental Press

T: Specific Skill Series.
S.E.: Exercise books designed for specific skills (i.e., sounds, follow directions, use context, locate answer, get facts, get main idea, draw conclusions, sequence.
R.L: 1-7
Pub.: Bernell Loft, Ltd.

T: Springboards Reading Labs I and II.
S.E.: Springboards articles are keyed to the units of major texts in World History, American History and Black History.
R.L.: 4-6
Pub.; Noble and Noble

T: Turning Point.
S.E.: Main ideas, using details, making inferences and sequencing for junior and senior high levels.
R.L.: 1.8 - 3.1
Pub.: McCormick-Mathers

Reading - Secondary-Level Materials

Combined Word Attack and Comprehension Skills

T: Astrology - A Scientific Art
S.E.: Especially created for Junior-Senior High students who are experiencing difficulty in reading.
R.L.: 7-9
Pub.: Singer Ed. and Training, SVE - Society for Visual Education.

T: Be a Better Reader, A,B,C.
S.E.: May be used for different purposes with pupils at different levels of reading achievement: 1) as developmental skill texts in the elementary school; 2) as remedial skill texts with junior or senior high school students who are reading at elementary level.
R.L.: 4.0-6.0
Pub.: Prentice-Hall, Inc.

T: Breakthough Series.
S.E.: Short paper back books for vocabulary development and reading comprehension for the problem reader; high interest with low reading levels.
R.L.: 1-7
Pub.: Allyn and Bacon

T: Be Informed Series.
S.E.: Reading comprehension, word study, writing, listening and grammar skills for 9th grade to adult.
R.L.: 5-6
Pub.: New Reader Press

T: The Checkered Flag Classroom Reading Kit.
S.E.: Exercises and books prepared with high interest appeal for all ages that aid the pupil in developing comprehension, vocabulary, and critical thinking skills.
R.L.: 2.4-4.5
Pub.: Field Educational Publications,

T: CLUES.
S.E.: Phonetic and structural word analysis and comprehension for students in grades 5 and above who have not mastered primary grade reading skills.
R.L.: 2-5
Pub.: Educational Progress Corporation

T: Countries and Cultures.
S.E.: Reading comprehension for junior and senior high students.
R.L.: 4-5
Pub.: Science Research Associates

T: Double Action.
S.E.: Main idea, specific details, word attack and vocabulary inference for grades 7-12.
R.L.: 3.0-4.5
Pub.: Scholastic Book Services

T: Forward, Back and Around
S.E.: Vocabulary development and lateral thinking for grades 5-12.
R.L.: 5-8
Pub.: Curriculum Associates

T: GO Reading in the Content Areas.
S.E.: Upper elementary through senior high basic word analysis, comprehension and reasoning skills.
R.L.: 2.0-7.5
Pub.: Scholastic Book Services

T: Language Lab.
S.E.: Reading, language, dictionary skills and research skills for grades 7-12.
R.L.: 3-5
Pub.: Bowmar

T: Phoenix Reading Series Levels A,B,C.
S.E.: A reading program designed for children who have reached the middle grades without learning to read. The two formats are 1) the Photo Reader which presents ideas, concepts and information developed around a single theme and 2) the Action Reader which provides short reading selections relating to the Photo Reader theme.
R.L.: 2175-3.75
Pub.: Prentice-Hall, Inc.

T: The Reading Practice Program.
S.E.: Decoding, vocabulary, sentence study and comprehension for upper elementary and junior high school students.
R.L.: 4-5
Pub.: Harcourt Brace Jovanovich

T: The Reading Success Series.
S.E.: General reading skills for junior and senior high students.
R.L.: 2-4
Pub.: Xerox Education Publications

T: Reading, Thinking and Reasoning.
S.E.: 40 skills in 3 main areas - analysis, synthesis and evaluation for junior high students.
R.L.: 1-6
Pub.: Steck-Vaughn

T: Skillbooster Series.
S.E.: Building word power, increasing comprehension, working with facts and details, organizing information and using references for junior and senior high school students.
R.L.: 4-6
Pub.: Modern Curriculum Press

T: The Spice Series: Anchor, Vol. I and 2.
S.E.: Word attack and comprehension reinforcement suggestions for junior and senior high school students.
R.L.: 4-8
Pub.: Educational Service

T: Sport-Action Skill Kits.
S.E.: Kits with read along cassette tapes to promote development of pronunciation, enunciation and inflection, comprehension, recall of story content, etc.
R.L.: Intermediate
Pub.: Troll Associates

T: Sprint Libraries.
S.E.: Comprehension and word attack skills for grades 4-9
R.L.: 2.0-3.9
Pub.: Scholastic Book Services

T: Study Skills for Information. Retrieval: Books 1,2,3,4
S.E.: Alphabetizing, dictionary skills; library work; use of encyclopedia; read and interpret maps, charts, graphs, and data; organize and write reports for grades 5-adult.
R.L.: 4-6
Pub.: Allyn and Bacon

T: Study Skills Library.
S.E.: Reading skills focusing on content subjects.
R.L.: 4-9
Pub.: Educational Developmental Laboratories, Division of McGraw-Hill.

T: Systems for Success: Book 1 and Book 2.
S.E.: Book 1: Reading, writing, computation, english skills
Book 2: Comprehension, vocabulary, spelling, practical computations, effective communication for grades 7-adult.
R.L.: Book 1 - Grades 0-4, Book 2 - grades 5-8
Pub.: Follett

T: Target Programs.
S.E.: Elementary - adult program for phonetic analysis, structural analysis, vocabulary and study skills.
R.L.: 4-adult
Pub.: Field Enterprises Educational Publications, Inc.

T: West Word Bound Book.
S.E.: Word attack, comprehension and study skills for grades 6-adult.
R.L.: 2-6
Pub.: Economy

G. REFERENCES

Barbe, W. B. *Educator's guide to personalized reading instruction*. Englewood Cliffs, N.J.: Prentice-Hall, 1961.

Betts, E. A. *Foundations of reading instruction*. New York: American Book, 1946.

Bond, G. L., Clymer, T., & Hoyt, C. J. *Silent reading diagnostic tests*. Chicago: Lyons & Carnahan, 1955.

Bond, G. L., & Tinker, M. A. *Reading difficulties: Their diagnosis and correction*. (2nd ed.) New York: Appleton-Century-Crofts, 1967.

Botel, M. *Botel reading inventory*. Chicago: Follett, 1962.

Brown, G. M., & Cottrell, A. B. *California phonics survey*. Monterey, Calif.: California Test Bureau, 1963.

Brueckner, L. J., & Bond, G. L. *The diagnosis and treatment of learning difficulties*, New York: Appleton-Century-Crofts, 1955.

Bush, C. L., & Huebner, M. H. *Strategies for reading in the elementary school*. New York: Macmillan, 1970.

Cartwright, C. A., & Cartwright, G. P. *Developing observation skills.* New York: McGraw-Hill, 1974.

Comprehensive tests of basic skills. Monterey, Calif.: CTB/McGraw-Hill, 1968.

Della-Piana, G. M. *Reading Diagnosis and prescription: An introduction*. New York: Holt, Rinehart and Winston, 1968.

Duffy, G. G., & Sherman, G. B. *How to teach reading systematically*. New York: Harper & Row, 1973.

Dunn, L. M., & Markwardt, F. C. *Peabody individual achievement test*. Circle Pines, Minn.: American Guidance Service, 1970.

Durkin, D., & Meshover, L. *Phonics knowledge survey*. New York: Teachers College Press, Columbia University, 1964.

Durost, W., Bixler, H., Wrightstone, W., Prescott, B., & Balow, I. *Metropolitan achievement tests*. New York: Harcourt Vrace Jovanovich, 1971.

Durrell, D. D. *Durrell analysis of reading difficulty*. New York: Harcourt Brace Jovanovich, 1955.

Ekwall, E. E. *Locating and correcting reading difficulties*. Columbus, Ohio: Charles E. Merrill, 1970.

Ekwall, E. E. Diagnosis and remediation of the disabled reader. Boston: Allyn and Bacon, 1976.

Fry, E. B. Reading instruction for classroom and clinic. New York McGraw:Hill, 1972

Gates, A. I., & MacGinitie, W. Gates-MacGinitie reading tests. New York: Teachers College Press, Columbia University, 1965.

Gates, A. I., & McKillop, A. S. Gates-McKillop reading diagnostic tests. New York: Bureau of Publications, Teachers College Press, Columbia University, 1962.

Goodman, K. A."Linguistic study of cues and miscues in reading." Elementary English Review, 1965, 5, 9-30.

Goodman, K. S."Analysis of oral reading miscues: Applied psycholinguistics." Reading Research Quarterly, 1969, 5, 9-30.

Goodman, K. S."Reading: A psycholinguistic guessing game." In H. Singer and R. Ruddell (Eds.), Theoretical models and processes of reading. Newark, Del.: International Reading Association, 1970.

Goodman, K. S., & Niles, O. S. Reading process and program. Champaign, Ill.: National Council of Teachers of English, 1970.

Goodman, Y. M., & Burke, C. I. Reading Miscue Inventory: Manual procedure for diagnosis and remediation, New York: Macmillan, 1972.

Gray, W. S., & Robinson, H. M. (Eds.). Gray oral reading test. Indianapolis: Bobbs-Merrill, 1967.

Greene, H. A., Jorgansen, A. N., & Kelley, V. H. Iowa silent reading tests. New York: Harcourt Brace Jovanovich, 1956.

Harris, A. How to increase your reading ability. (5th ed.) New York: McKay, 1970.

Heilman, A. W. Phonics in proper perspective. (2nd ed.) Columbus, Ohio: Charles E. Merrill, 1968.

Jastak, J. F., & Jastak, S. R. Wide range achievement test. Wilmington, Del.: Guidance Associates, 1965.

Johnson, M. S., & Kress, R. A. Informal reading inventories. Newark, Del.: International Reading Association, 1965.

Kaluger, G., & Kolson, C. J. Reading and learning disabilities. Columbus, Ohio: Charles E. Merrill, 1969.

Kamm, K., Miles, P. J., Van Blaricom, V. L., Harris, M. L., & Stewart, D. M. Wisconsin tests of reading skill development: Word attack. Minneapolis: National Computer Systems, 1972.

Karlin, R. *Teaching elementary reading: Principles and strategies*. New York: Harcourt Brace Jovanovich, 1971.

Karlsen, B., Madden, R., & Gardner, E. F. *Stanford diagnostic reading tests*. New York: Harcourt Brace Jovanovich, 1966.

LaPray, M., & Ross, R. The graded word list: Quick gauge of reading ability. *Journal of Reading*, 1969, 12, 305-307.

Lerner, J. *Children with learning disabilities*. (2nd ed.) Boston: Houghton Mifflin, 1976.

McCracken, R. A. *Standard reading inventory*. Klamath, Ore.: Klamath Printing, 1966.

McCullough, C. M. *McCullough work-analysis tests*. Boston: Ginn, 1963.

Morgan, W. P. *A case of congenital word-blindness*. British Medical Journal, 1896, 2, 1,387.

Orton, S. *Reading, writing, and speech problems in children*. New York: Norton, 1937.

Otto, W., McMenemy, R. A., & Smith, R. J. *Corrective and remedial teaching*. (2nd ed.) Boston: Houghton Mifflin, 1973.

Powell, W. R. The validity of the instructional reading level. In R. E. Leibert (Ed.), *Diagnostic viewpoints in reading*. Newark, Del.: International Reading Association, 1971.

Robinson, H. *Why children fail in reading*. Chicago: University of Chicago Press, 1946.

Roswell, F. G., & Chall, J. S. *Roswell-Chall diagnostic test of word-analysis skills*. New York: Essay Press. 1959.

Silvaroli, N. J. *Classroom reading inventory.* (2nd ed.) Dubuque, Iowa: William C. Brown, 1973.

Sipay, E. R. *Sipay work-analysis tests* Cambidge, Mass: Educators Publishing Service 1974.

Slosson, R. L. Slosson oral reading test, East Aurora, N. Y.: Slosson Educational Publications, 1963.

Smith, R. M. Clinical teaching: *Methods of instruction for the retarded*.(2nd ed.) New York: McGraw-Hill, 1974.

Spache, G. D. *Diagnostic reading scales*. Monterey, Calif.: California Test Bureau, 1972.

Spache, G. D. *Diagnosing and correcting reading difficulties*. Boston: Allyn and Bacon, 1976.

Spache, G. D., & Spache, E. B. *Reading in the elementary school*. (2nd ed.) Boston: Allyn and Bacon, 1969.

Strang, R. *Diagnostic teaching of reading*. (2nd ed.). New York: McGraw-Hill, 1969.

Thorpe, L. P., Lefever, D. W., & Naslund, R. A. *SRA achievement series*. Chicago: Science Research Associates, 1968.

Tiegs, E. W., & Clark, W. W. *California achievement test*. Monterey, Calif.: CTB/McGraw-Hill, 1963.

Tiegs, W. W., & Clark, W. W. *California reading test*. Los Angeles: California Test Bureau, 1970.

Tinker, M. A., & McCullough, C. M. *Teaching elementary reading*. (4th ed.) Englewood Cliffs, N. J.: Prentice-Hall, 1975.

Wallace, G., & McLoughlin, J. A. *Learning disabilities: Concepts and characteristics*. Columbus, Ohio: Charles E. Merrill, 1975.

Wallen, C. J. *Competency in teaching reading*. Chicago: Science Research Associates, 1972.

Wilson, R. M. *Diagnostic and remedial reading for classroom and clinic*. (2nd ed.) Columbus, Ohio: Charles E. Merrill, 1972.

Woodcock, R. W. *Woodcock reading mastery tests*. Circle Pines, Minn: American Guidance Service, 1974.

III. Spelling

A. Framework for Spelling Skills

Spelling can be defined as the ability to arrange properly letters into words that are necessary for effective written communication. The speller must possess knowledge regarding the manner in which phonemes are represented by graphemes. The relationship of sounds to letters has to be understood and mastered prior to the skill of spelling being attained.

The processes that are considered as primary importance in spelling are:

1) Memory Channel - The student uses only internal input to spell a word and to determine if it is correct.
2) Memory-Kinesthetic Detour - The student spells words with no conscious thought of overlearning
3) Checking Channel - The student makes use of outside sources prior to writing the word.
4) Proofreading Channel - The student, after writing the word, checks spelling through external input.
5) Proofreading Rewrite Bypass - The student, if discovering a a word is spelled incorrectly, rewrited the word after consulting external sources.

In order to spell the wide variety of words in the English language, all the above processes have to be utilized in a interrelated fashion.

B. Most Commonly Used Standardized Achievement Tests With Spelling Sections

TEST	PROCEDURE FOR ASSESSING SPELLING	GRADE LEVELS
Test of Written Spelling (Larsen & Hammill, 1976)	Dictated-word	1-8
Comprehensive Tests of Basic Skills (CTB/McGraw-Hill, 1968)	Proofreading	2-12
California Achievement Tests (Tiegs & Clark, 1970)	Proofreading	1-12
Stanford Achievement Tests (Madden & Gardner, 1972)	Proofreading	1-9
Peabody Individual Achievement Test (Dunn & Markwardt, 1970)	Proofreading	K-12
Iowa Test of Basic Skills (Hieronymus & Lindquist, 1971)	Proofreading	1-9

B. Most Commonly Used Standardized Achievement Tests With Spelling Sections (cont'd)

TEST	PROCEDURE FOR ASSESSING SPELLING	GRADE LEVELS
Metropolitan Achievement Tests (Surost, et al., 1970)	Dictated-word Proofreading	2-4 4-9
SRA Achievement Series (Thorpe, Lefever, & Nasland, 1974)	Proofreading	1-12
The Gray-Votaw-Rogers General Achievement Tests (Gray, Votaw, & Rogers, 1963)	Dictated-word Proofreading	1-3
Wide Range Achievement Test (Jastak & Jastak, 1965)	Dictated-word	3-12
The Iowa Test of Educational Development (Lindquist & Feldt, 1959)	Proofreading	9-12
McGraw-Hill Basic Study Skills: Spelling (Raygoz, 1970)	Proofreading	9-12

From: Gerald Wallace and Stephen Larsen, Educational Assessment of Learning Problems: Testing for Teaching, Allyn and Bacon, Inc., Boston (C), 1978, page 375, Reprinted with permission.

C. Informal Observation of Spelling

Another possibility in the observation and recording of spelling errors involves the construction of an informal spelling inventory, the focus is upon placing a student at an appropriate spelling level to insure success. By constructing an item-by-item error analysis, the teacher should be able to specify the difficulties of any specific student. Some of the types of errors to be made in such an assessment include:

1. addition of letters
2. omissions
3. mispronunciations
4. dialectical speech
5. reversals
6. phonetic spellings

The independent, instructional, and frustration levels can be calculated based upon an appropriate selection of grade-representative words.

The close procedure, in modified format can also be included as a spelling test modification. The next level of spelling word difficulty might include a multiple choice format as utilized in the Peabody Individual Achievement Test.

The teacher needs to carefully determine the level of success for each student while attempting to raise the accuracy of spelling skills.

D. CHECKLIST OF SPELLING DIFFICULTIES

From Academic Therapy, Vol XI, No. 3, Spring, 1976
by Shirley Partoll

Check consistent or frequent errors only.

___1. Consonant sounds used incorrectly (specified letters missed)
____

___2. Vowel sounds not known (specify as above)________________

___3. Sounds omitted at beginning of words____________________

___4. Sounds added at beginning of words (e.g. a blend given when single consonant required)____________________

___5. Omission of middle sounds____________________

___6. Omission of middle syllables____________________

___7. Extraneous letters added____________________

___8. Extraneous syllables added____________________

___9. Missequencing of sounds or syllables (transposals like *from* to *form*)
____

__10. Reversals of whole words____________________

__11. Endings omitted____________________

__12. Incorrect endings substituted (*ing* for *en* or for *ed*)

__13. Auditory confusion of *m/n* or *th/f/v* or *b/p* or other similar sounds____________________

__14. Spelling phonetic with poor visual recall of word appearance
____

__15. Spelling laborious, letter by letter____________________

__16. Revisualization of very common sight words poor (e.g., *one*, *night*, *said*)____________________

__17. Spells, erases, tries again, etc. to no avail______________

__18. Reversals of letter shapes *b/d* or *p/q* or *u/n* or *m/w* (specify)
____

__19. Spelling so bizarre that it bears no resemblance to original; even pupil cannot read his own frequently________________

Observe also (additional hazards to problems spellers)

___20. Mixing of upper and lower case letters____________________

___21. Inability to recall how to form either case for some letters
____

___22. Spatial placement on line erratic_________________________

___23. Spacing between letters and words erratic________________

___24. Poor writing and letter formation, immature eye-hand coordination______________________________________

___25. Temporal disorientation: slowness in learning time, general scheduling, grasping the sequence of events in the day and those usually known to his contemporaries__________________

___26. Difficulty in concept formation; not able to generalize and transfer readily, to abstract "the rules and the tools"___
____

E. Competencies For Teachers In The Area of Spelling

I. General Knowledge

The teacher:

1. understands the nature and rules of English orthography
2. understands different theories of teaching spelling
3. understands research related to the different spelling theories
4. understands various models of spelling behavior
5. is familiar with at least one scope and sequence of spelling skills
6. understands the importance of teaching spelling as part of a total language arts curriculum
7. has knowledge of the basic core of spelling words used in children's and adults' writing

II. Assessment

1. can administer and interpret the spelling sections of standardized achievement tests
2. can administer and interpret standardized diagnostic spelling tests
3. can administer and interpret informal and/or criterion referenced spelling assessment instruments
4. can construct and administer an Informal Spelling Inventory (ISI)
5. can conduct an error analysis from a written sample of a student's work or from the results of a student's performance on a standardized achievement or spelling tests
6. can determine which type of spelling technique can be used most economically with the student

III. Instruction

1. can teach spelling skills using a planned sequence of activities
2. understands various approaches to teaching spelling
3. can utilize and when necessary, modify various commercial basal and remedial spelling programs
4. can use different procedures to monitor progress in the acquisition of spelling skill, e.g., charting, precision teaching, etc.
5. can apply inferences and generalization from research to teaching spelling

6. can integrate spelling as a naturalistic part of the total language arts program

Taken From: "Code of Ethics and Competencies for Teachers of Learning Disabled Children and Youth, " Division For Children With Learning Disabilities, pp. 16 and 17, Reprinted with persmission.

F. Materials for Use in Spelling

		SPELLING		
TITLE	PUBLISHER DATE	GRADE LEVEL	CONTENT	COMMENTS
Spelling Word Power Lab	Science Research Associates, Inc. 1966	Grade level 4-7, reading level 4-7	Learning wheel, response book, check tests, achievements surveys key cards	Emphasizes specific spelling problems such as suffixes, consonant blends, special plural endings; divided into 4 laboratories - roughly grades 4, 5,6, & 7; material presented on a learning wheel, student response book
A Spelling Workbook Series	Educator's Publishing Service	Grade level 2-12	Workbooks	Corrective program for spelling and reading
Word Book Spelling Series	Lyons & Carnahan, 1974	Grade Level 2-8	Workbooks Spirit masters	Linguistically oriented; 4 levels emphasizing sound, structures, and meaning of language; phonics-oriented approach to spelling
Spelling Growth	The Economy Co.	Grade level 2-8	Books	Phonetic approach stressing auditory, visual, meaning, and kinesthetic techniques
Spelling Our Language	Scott, Foresman & Co., 1973	Grade level 1-8, reading level 1-8	Books, acetate overlay; proofcheckers available	Books 3-8 can be used in independent study designed to develop: spelling, vocabulary; ability to identify and use English spelling patterns; relationship of handwriting to spelling; use of dictionary, glossary, thesauri,etc.

F. Materials for Use in Spelling (Cont'd)

Spell/Write	Noble & Noble Publishers, 1971-1973	Grade level 1-8	Hard-or-soft-cover books, diagnostic and mastery tests, duplicating masters	Inductive approach to spelling generalizations; spelling list teaches reliable phoneme-grapheme patterns first; also incorporates handwriting
Reading Road to Spelling	Harper & Row, 1970	Grade level 1-8	Hardbound or paperback books	For slow or average students; emphasis on spelling and language skills; objectives specified in each lesson, but not in behavioral terms
Spelling	Behavioral Reseach Laboratories	Grade level 1-8	Texts, test booklets, teacher's manual	A programmed series in which one sound maintains the same letter representation until child masters it; illustrations with clues aid student in answering
Gateway to Correct Spelling, revised	Steck-Vaughn, 1975	Grade level 7-12	Worktext, teacher's manual	High School speller; exercise format
Ginn Individualized Spelling Program	Ginn and Co., 1974	Grade level 2-8	Individualized spelling kits with cards	6 kits containing 28 levels; each kit has roughly a 3-grade range and

F. Materials for Use in Spelling (Cont'd)

		SPELLING		
TITLE	PUBLISHER DATE	GRADE LEVEL	CONTENT	COMMENTS
				Contains approximately 425 cards for pre-assessment and instruction teaches word and language concepts, nongraded, individualized
Harbrace Spelling Program	Harcourt Brace Jovanovich,1974	Grade level 1-8	Workbooks	Program built on a spelling pattern base; starts with consistent and moves to less predictable relationships; also covers handwriting, tracing, writing stories and sentences, and analyzing word structure, etc.
Botel Spelling Program	Penn Valley Publishing Co., 1965	Grade level 1-12	Dictionary speller; student record book	For slow or beginning speller
Demon Spelling Words, Phondise	Educational Activities, Inc., 1968	Grade level 2-8	Record or cassette	Words are grouped by grade level; they are not representative of rules so they must be memorized; average is 15 words per grade level; systematic, intensive review of these words

F. Materials for Use in Spelling (Cont'd)

TITLE	PUBLISHER DATE	SPELLING GRADE LEVEL	SPELLING CONTENT	COMMENTS
Dr. Spello (2nd Ed.)	McGraw-Hill, Webster Division, 1968	Grade level 4-9	Worktext	Corrective reading and spelling skills worktext; content includes vowel and consonant sounds, 2-letter consonants, silent letters, endings, prefixes and suffixes, homonyms, contractions, etc.
Basic Goals in Spelling	McGraw-Hill, Webster Division, 1972	Grade Level 1-8	Text, workbook, filmstrips, Webstermasters, sound symbol charts, teacher's edition	No grade level, designations, flexibility within texts with multi-level teaching individualized instruction, practice in spelling by analogy
Basic Spelling Series	J.B. Lippincott Co., 1973	Grade level 1-8	Workbook	Ungraded series of workbooks uses a phonetic/linguistic approach to spelling, listening, speaking, reading, writing, punctuation, handwriting, proofing, and dictionary activities included

Taken From: Libby Goodman and Lester Mann, Learning Disabilities in the Secondary School, Grune and Stratton, New York, 1976, pages 153-156.

G. References:

Aaron, I. E. The relationship of selected measures to spelling achievement at the fourth and eighth grade level. *Journal of Educational Research*, 1959, 53, 139-143.

Anderson, P. S., & Groff, P. J. *Resource materials for teachers of spelling*, (2nd ed.) Minneapolis: Burgess, 1968.

Benthul, H. F., Anderson, E. A., Utech, A. N., Biggy, M. V., & Bailey, B. L. *Spell correctly*. Morristown, N. J.: Silver Burdett, 1974.

Betts, A. E. What about spelling? *Education*, 1956, 76, 3-6.

Boyd, G. A., & Talbert, E. G. *Spelling in the elementary school*. Columbus, Ohio: Charles E. Merrill, 1971.

Brueckner, L. J., & Bond, G. L. *The diagnosis and treatment of learning difficulties*. New York: Appleton-Century-Crofts, 1966.

Cartwright, G. P. Written expression and spelling. In R. M. Smith (Ed.), *Teacher diagnosis of educational difficulties*. Columbus, Ohio: Charles E. Merrill, 1969.

CTB/McGraw-Hill. *Comprehensive tests of basic skills*. New York: CTB/McGraw-Hill, 1968.

Dunn, L. M., & Markwardt, F. C. *Peabody individual achievement test*. Circle Pines, Minn.: American Guidance Service, 1970.

Durost, W., Bixler, H., Wrightstone, J., Prescott, G., & Barlow, I. *Metropolitan achievement tests*. New York: Harcourt Brace Jovanovich, 1970.

Edgington, R. "But he spelled them right this morning!" *Academic Therapy*, 1968, 3, 58-59.

Feigenbaum, L. H. For a bigger better alphabet. *High Points*, 1958, 40, 34-36.

Gates, A., & Russell, D. *Gates-Russell spelling diagnostic test*. New York: Columbia University Press, 1940.

Glim, T. E., & Manchester, F. S. *Basic spelling: A rationale*. New York: J. B. Lippincott, 1975.

Gray, H., Votaw, D. F., & Rogers, J. L. *The Gray-Votaw-Rogers general achievement tests*. Austin, Tex.: Steck-Vaughn, 1963.

Hammill, D. C., & Noone, J. Improving spelling skills. In *Teaching children with learning and behavior problems*. Boston: Allyn and Bacon, 1975.

Hanna, P. R., Hanna, J. S., Hodges, R. E., & Rudorf, E. H. *Phoneme-grapheme correspondences as cues to spelling improvement*. U. S. Department of Health, Education and Welfare. Washington, D. C.: U. S. Government Printing Office, 1966.

Hanna, P. R., Hodges, R., & Hanna, J. S. *Spelling: Structure and strategies*. Boston: Houghton Mifflin, 1971.

Hieronymus, C., & Lindquist, A. P. *Iowa test of basic skills*. Boston: Houghton Mifflin, 1971.

Hildreth, G. *Teaching spelling*. New York: Holt, Rinehart and Winston, 1955.

Hodges, R. E., & Rudorf, E. H. Searching linguistics for cues for the teaching of spelling. In T. D. Horn (Ed.), *Research on handwriting and spelling*. Champaign, Ill.: National Council of Teachers of English, 1966.

G. **References**: (contd)

Horn, E. *Teaching spelling*. Department of Classroom Teachers, National Education Association of the United States, 1954.

Hunt, B., Hadsell, A., Hannum, J., & Johnson, H. W. The elements of spelling ability. *Elementary School Journal*, 1963, 63, 342-349.

Jastak, J. F., & Jastak, S. R. *Wide range achievement test.* Wilmington, Del.: Guidance Associates, 1965.

Kottmeyer, W. *Teachers guide for remedial reading.* St. Louis: Webster, 1959..

Kottmeyer, W., & Claus, A. *Basic goals in spelling.* New York: McGraw-Hill, 1974.

Larsen, S. C., & Hammill, D. C. *Test of written spelling.* Austin, Tex.: Empiric Press, 1976.

Lindquist, E. F., & Feldt, L. S. *The Iowa test of educational development.* New York: Science Research Associates, 1959.

Madden, R., & Gardner, E. F. *Stanford achievement tests.* New York: Harcourt Brace Jovanovich, 1972.

Mann, P. H., & Suiter, P. *Handbook in diagnostic teaching.* Boston: Allyn and Bacon, 1974.

Otto, W., McMenemy, R. A., & Smith, R. J. *Corrective and remedial teaching*, Boston: Houghton Mifflin, 1973.

Partoll, S. F. Spelling demonology revisited. *Academic Therapy*, 1976, 11, 339-348.

Personke, C., & Yee, A. A model for the analysis of spelling behavior. *Elementary English*, 1966, 43, 278-284.

Peters, M. L. *Success in spelling.* Cambridge: W. Heffer and Sons, 1970.

Poplin, M. A model of spelling behavior. Unpublished manuscript, University of Texas at Austin, 1976.

Raygoz, B. F. *McGraw-Hill basic study skills: Spelling.* New York: McGraw-Hill, 1970.

Rudorf, E. H. Measurement of spelling ability. In T. D. Horn (Ed.), *Research on handwriting and spelling.* Champaign, Ill.: National Council of Teachers of English, 1966.

Sequential test of basic skills, Palo Alto, Calif.: Educational Testing Service, 1958.

Shores, J. H., & Yee, A. Spelling achievement tests: What is available and needed? *Journal of Special Education*, 1973, 7, 301-310.

Thorpe, L. P., Lefever, D. W., & Nasland, R. A., *SRA achievement series.* New York: Science Research Associates, 1974.

Tiegs, E. W., & Clark, W. W. *California achievement tests.* New York: CTB/McGraw-Hill, 1970.

Westerman, Gayle S. *Spelling and writing.* Sioux Falls, S. D.: Adapt Press, 1971.

IV. Mathematics

A. FRAMEWORK FOR MATHEMATICS SKILLS

General Principles As Related To Math And The Learning Disabled Student

1. Mathematics is more than numbers, it's a method of thinking and logical reasoning.

2. To succeed in math, the learning disabled student must do more than memorize the facts; he must comprehend the principles underlying these facts.

3. Math concepts for the older learning disabled student should be oriented primarily toward survival skills, career and real-life experiences.

4. Let the learning disabled student concretely experience the math problem first. This prevents him from becoming lost if he has a severe visual or auditory problem.

5. For the secondary learning disabled student, math facts to be memorized should be presented in sequence both visually and auditorily.

6. Basic math words and phrases can be used to enhance vocabulary. These teach relationships which are often neglected in basic vocabulary lists. See the end of this chapter for "List of Basic Math Words and Phrases."

7. To improve reading of word problems, present simple addition, subtraction, division, and multiplication problems in writing. For example, (2 + 3 = 5) two plus three equals five; (6 - 4 = 2) six minus four equals two; (12 ÷ 4 = 3) twelve divided by four equals three, and (2 X 5 = 10) two times five equals ten.

8. Commercial games such as Triominoes, Monopoly, and Stamina are an excellent way to present math facts and enhance group interaction and social skills.

9. When giving informal math tests always give three examples of the operation so errors can be understood correctly. Thus, it is easier to distinguish errors in lack of understanding of basic concepts (constant errors) as opposed to errors of carelessness (chance error).

10. Document errors by keeping samples of student's work. Review samples to see if student is grasping concepts and making progressive improvements.

11. Capitalize on student's strengths to build success steps in math lessons. This allows for confidence building which makes introduction of new math concepts easier.

12. The KeyMath Diagnostic Arithmetic Test is an excellent tool for beginning your diagnostic teaching math.

From: Max Rudd and Deb Evers, The Prescriptive Teaching Handbook, The Oklahoma Child Service Demonstration Center, Learning Disabilities Program, Cushing, Oklahoma, 1979, pages 32-33, Reprinted with permission.

B. Teacher Competencies in Mathematics

I. General Knowledge

A. Number Theory

The teacher:

1. understands all the concepts involved in numeration and counting.
2. understands the concept of place value.
3. understands the concepts and operations involved in converting from one base to another.
4. understands both the Arabic and Roman numeral systems.
5. understands the associative, commutative, and distributive properties of whole numbers.
6. understands the concept of prime and composite numbers.
7. can identify and explain common symbols used in mathematics.
8. understands set theory.

B. Addition and Subtraction

1. understands the computational process involved in adding and subtracting whole numbers.
2. understands the concept of regrouping as it relates to addition and subtraction.
3. knows the terms related to the operations involved in an addition and subtraction problem, e.g.,: addends, minuend, etc.

C. Multiplication and Division

1. understands the computational process involved in solving multiplication and division problems.
2. knows the terms related to the operations of multiplication and division problems, e.g., quotient, divisor.

D. Fractions, Decimals, and Percentage

1. understands all the operations involved in adding, subtracting, multiplying, and dividing fractions, decimal numbers, and numbers expressed as percentages.
2. understands all the processes involved in converting a number from one form to another - e.g., a fraction to a decimal, a decimal to a percent, etc.

E. Geometry

1. understands simple common plane geometric figures, e.g., square, circle, triangle, and understands the processes used in determining perimeter and area of these figures.
2. understands common solid geometric figures, e.g., cube, sphere, and understands the process used in determining the area and volume of each.

F. Measurement

1. understands all the concepts involved in measurement of time, linear planes, weight, liquids, and temperature.
2. understands the metric system.
3. understands the concepts and processes involved in constructing simple charts and graphs.

G. Money

1. understands the U.S. monetary system.

H. Verbal Problem Solving

1. understands the variables that contribute to difficulty in verbal problem solving, e.g., reading level, level of syntactic complexity, distractors, etc.

II. Assessment

1. can administer and interpret the mathematical portion of standardized group achievement tests.
2. can administer and interpret the mathematical portion of individual standardized achievement tests.
3. can administer and interpret standardized diagnostic tests.
4. can take a scope and sequence in each mathematical area and develop and administer an evaluation instrument that is based upon it.
5. is familiar with several procedures which can be used to assess a student's attitude toward mathematics.
6. is familiar with methods for conducting error analysis.
7. is familiar with procedures used for determining a student's verbal problem solving ability.

III. Instruction

The teacher:

1. can teach a specific mathematical skill by developing and following a planned sequence of activities.

2. can evaluate, utilize, and/or adapt commercial mathematical programs and materials.
3. can use appropriately and effectively a variety of manipulative mathematical materials, e.g., number line, counting blocks, cuisenare rods, to teach a specific skill.
4. is familiar with different conceptual and theoretical approaches to mathematics instruction.
5. is familiar with non-traditional ways of teaching algorithms, e.g., "tractenberg" methods of addition, "equal addition method" for subtracting.
6. can teach practical application of math concepts, e.g., liquid measurement as it relates to cooking, linear measurements as it relates to carpentry, time as it relates to the student's daily schedule.

From: "Code of Ethics and Competencies For Teachers of Learning Disabled Children and Youth," Division For Children With Learning Disabilities, 1968, pp. 17-19, Reprinted with permission.

C. Formal Assessment Techniques In Mathematics

1. Achievement Test With Mathematics Sections:

Name of Test	Grade Level	Arithmetic Skills
California Achievement Tests (Tiegs & Clark, 1963)	1-9	Computational skills reasoning
Metropolitan Achievement Tests (Durost, Bixler, Wrightstone, Prescott, & Balow, 1971)	3-9	Computational skills, problem solving, and concepts
Peabody Individual Achievement Test (Dunn & Markwardt, 1970)	K-12	Total score with items assessing matching skills through trigonometry concepts
SRA Achievement Series in Arithmetic (Thorpe, Lefever, & Naslund 1964)	1-9	Computational skills, reasoning, and concepts
Wide Range Achievement Test (Jastak & Jastak, 1965)	Preschool and up	Total score with items assessing counting, number symbols, oral problems, and computational skills

2. Diagnostic Mathematics Tests:

Name of Test	Aritmetic Skills
Diagnostic Chart for Fundamental Processes in Arithmetic (Buswell & John, 1925)	Four basic arithmetic operations with whole numbers
Key Math Diagnostic Arithmetic Test (Connolly, Nachtman, & Pritchett, 1971)	Basic operations, fractions, numeration, word problems, money, measurement, time, geometry, and symbols
Diagnostic Tests and Self-Helps in Arthmetic (Brueckner, 1955)	Basic operations, fractions, decimals, percent, and measurement
Stanford Diagnostic Arithmetic Test (Beatty, Madden, & Gardner, 1966)	Basic operations, decimals, fractions, percent, and counting

(continued)

2. (continued)

Name of Test	Arithmetic Skills
Basic Educational Skills Inventory: Math (Adamson, Shrago & Van Etten, 1972)	Readiness skills, basic operations, decimals, fractions, time, and money

From: Gerald Wallace and Stephen Larsen, *Educational Assessment of Learning Problems: Testing For Teaching*, Allyn and Bacon, Inc., Boston (C) 1978, pages 443-444, Reprinted with permission.

D. List of Basic Math Words and Phrases

Reference: "Math and LD: A New Perspective," *Academic Therapy*, Vol. 14, No. 1, pp. 5-13, by Sheila C. Swett

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about
above
add
after
alike
all
almost
always
amount
and
answer
are
around
arrange
as much as
away from

back
because
before
beginning
behind
below
beside
between
biggest
blanks
both
bottom
boxes
by

cent
centimeter
circle
code
coins
color
column
collection
complete
compute
connect
copy

corner
correct
counting
cups

different
difference
dime
divide
do
dollar
down

each
earned
eight
eighth
eleven
equals
equations
even
every
examples

false
farthest from
feet
few
fifth
figure
fill
find
first
five
foot
for
four
fourth
from
fraction
full

gallon
given

greater than
group

half
has
have
how many
hundred

if
in
inches
incorrect
inside
into
is

know

last
least
left
length
less than
letters
little
long
look

made
make
many
mark
match
matching
measure
means
medium
meter
metric
middle
minus
minutes
more than

most
much
multiply
must

nearest to
never
next
nickel
nine
ninth
no
none
not
nothing
number
numeral

objects
o'clock
odd
of
one
only
or
order
other
outside
over

pair
paper
past
penny
picture
pints
problem
product
put
puzzle

quart
quarter

rectangle
right
ring
row
ruler

same
sample
scale
second
segment
separate
sets
seven
seventh
several
shape
short
side
sign
six
sixth
size
since
skip
smallest
solve
some
spend
square
study
subtract
sum

table
take away
ten
tenth
than
then
the
these
think
third

(List of Basic Math Words and Phrases - continued)

thirteen
this
three
through
time
top
triangle
true
trace
twelve
twenty
two

underline
use

value
very

ways
weight
what
when
where
which
whole
why
widest
with
word
work
write

year
yes

zero

E. Elementary Level Mathematics Material

Title: Arithmetic Step-by-Step
Skills Emphasis: Boxed, pre-printed, duplicated masters for 10 units in math (Readiness - 3)
Publisher: Continental Press

Title: Basic Practice in Mathematics
Skills Emphasis: A group of books including placement tests, practice pages, self-tests, and master tests.
Publisher: Love Publishing Company

Title: Basic Math for Children with Learning Disabilities
Skills Emphasis: A Manual that gives methods for teaching math that have been used successfully. Completed worksheets show the recommended techniques for teaching the actual meaning of abstract number concepts. Sections include place value, basic number combinations, metric, column addition, division, multiplication, etc.
Publisher: The Education Center

Title: Basic Math for Children with Learning Disabilities Worksheets
Skills Emphasis: Worksheets have been taken directly from the manual and can be reproduced.
Publisher: The Education Center

Title: Color by Number
Skills Emphasis: Arithmetic instructional activities designed to provide practice in number recognition, eye-hand coordination, simple computation, etc.
Publisher: Love Publishing Company

Title: Count Down
Skills Emphasis: Use of paces (audio-tape player and pacetapes (tape recordings), books for individualized mathematics programs.
Publisher: Economy Company

Title: Cuisenaire Rods Group Set
Skills Emphasis: A complete classroom package of cuisenaire colored rods for manipulative learning of basic math concepts.
Publisher: Cuisenaire Company

E. Elementary Level Mathematics Material

Title: Mystery Numbers - Arithmetic Instructional Activities
Skills Emphasis: A book of spirit duplicating masters created to provide review and practice in number recognition, shape and color recognition, counting, and separating a figure from a background.
Publisher: Love Publishing Company

Title: Mathematics in Action Series
Skills Emphasis: Series of 8 books designed for students with arithmetic difficulties.
Publisher: American Book Company

Title: Mathematics Materials
Skills Emphasis: Manipulative and concrete materials for teaching number concepts.
Publisher: A. Daigger & Company, Educational Teaching Aids Division

Title: Mathematics Materials
Skills Emphasis: Equipment and materials for teaching arithmetic.
Publisher: Edukaid of Ridgewood

Title: Mathematics Materials
Skills Emphasis: Concrete materials to enhance the teaching of number concepts.
Publisher: The Judy Company

Title: Mathematics Materials
Skills Emphasis: Number Relationships, Time Concepts, Games, and Manipulative Material.
Publisher: Teaching Resources Corporation

Title: Math Lab
Skills Emphasis: A kit of boxed cards with activities to teach mathematics concepts.
Publisher: Benefic Press

Title: Moving Up in Numbers
Skills Emphasis: A well organized program that is ideal for both regular practice and remediation of arithmetic.
Publisher: Developmental Learning Materials

E. Elementary Level Mathematics Material

Title: Pacemaker Arithmetic Readiness
Skills Emphasis: Primary level special education pre-arithmetic skills.
Publisher: Fearon

Title: PLUS
Skills Emphasis: Teacher's handbook of games, ideas, and activities to teach arithmetic.
Publisher: Educational Services, Inc.

Title: Sequential Math
Skills Emphasis: A program that involves no reading and provides for total individualization, sequential skill development, consistent drill, and continuous evaluation.
Publisher: Modern Education Corporation

Title: Succeeding in Mathematics
Skills Emphasis: Success-oriented mathematics instruction for the low achiever with emphasis upon computation, problem-solving, mathematical reasoning, geometry, and customary and metric measurement.
Publisher: Steck-Vaughn Company

Title: Word Problems in Math, Books A, B, C, D
Skills Emphasis: Using real life experiences to develop skills in reading, analyzing, and solving arithmetic problems.
Publisher: Scholastic Book Services

Title: The Sensorithmetic Program
Skills Emphasis: Teaching basic number and arithmetic concepts through the use of sensory reinforcement materials.
Publisher: Developmental Learning Materials

Title: Stern Structural Arithmetic
Skills Emphasis: A kit of manipulative objects.
Publisher: Houghton-Mifflin Company

Title: Primary Math Reinforcer Series
Intermediate Math Reinforcer Series
Skills Emphasis: A variety of game kit format materials used to reinforce basic math skills.
Publisher: I.E.S.S., Inc.

Title: The News & Observer/Raleigh Times Teach Reading and Math
Skills Emphasis: Reinforcement activities for math skills.
Publisher: News and Observer Publishing Company.

F. Secondary Level Mathematics Materials

Title: Activities in Mathematics
Skills Emphasis: For students who have been unsuccessful in math.
Publisher: Scott-Foresman

Title: Applications in Math
Skills Emphasis: Course A and B for the general math student.
Publisher: Scott-Foresman

Title: Basic Algebra
Skills Emphasis: Individualized cassettes teaching program.
Publisher: Merrill

Title: Basic Mathematics
Skills Emphasis: Spirit masters math program for low achievers.
Publisher: Merrill

Title: Basic Essentials of Mathematics: Part 1, Part 2
Skills Emphasis: Part 1 - Four fundamental operations with whole numbers, common fractions, decimals.
Part 2 - percent, measurement, ratio and proportion, simple equations.
Publisher: Steck Vaughn

Title: The Bucknell Mathematics Self Study System 1
Skills Emphasis: Independent self study for under-achievers.
Publisher: Webster/McGraw-Hill

Title: Coins and Bills
Skills Emphasis: Simulated money for teaching monetary transactions.
Publisher: Developmental Learning Materials

Title: Computational Skills Development Kit
Skills Emphasis: Basic operations of whole numbers, fractions, decimals, percents.
Publisher: Science Research Associates

Title: Consumer Related Mathematics
Skills Emphasis: Practical Mathematics. Tests and individualized units in arithmetic.
Publisher: Holt, Rinehart and Winston

Title: Experiencing Life Through Mathematics
Skills Emphasis: Basic operations and whole numbers, fractions, mixed numbers, decimals, percents.
Publisher: Pawnee Publishing Company

F. Secondary Level Mathematics Materials

Title: Figure It Out: Books 1 and 2
Skills Emphasis: Book 1 - Add, subtract, multiply, divide, money measurements.
Book 2 - Fractions, decimals, rounding off, estimating.
Publisher: Follett

Title: Foundation Mathematics
Skills Emphasis: Programmed mathematics.
Publisher: Webster Division/McGraw-Hill

Title: Fractions
Skills Emphasis: Designed for adolescents.
Publisher: Ann Arbor Publishers

Title: Fun and Games with Mathematics:Activity Cards
Skills Emphasis: To increase math skills and creative thinking.
Publisher: Prentice-Hall Learning Systems

Title: Good Times Again with Math
Skills Emphasis: Math-Centered activities.
Publisher: Prentice-Hall

Title: I.D.E.A.S.
Skills Emphasis: Individually diagnosed error analysis system;spirit masters for basic computation.
Publisher: Merrill

Title: Mathematics 1 and 2: Discovery and Practice
Skills Emphasis: Math Program for lower track high school:basic operations, algebra, geometry, and trigonometry.
Publisher: Harcourt Brace Jovanovich

Title: Math for Living Skill Books
Skills Emphasis: Skill books that provide extensive lessons and activities which give students the math-related skills needed for successful daily living.
Publisher: Mafex Associates (Johnstown, Pa.)

Title: Math Mystery Theatre
Skills Emphasis: Addition, subtraction, multiplication, division, factoring, least-common multipliers, fractions.
Publisher: Imperial International Learning

F. Secondary Level Mathematics Materials

Title: Merrill Mathematics Skill Tapes
Skills Emphasis: Cassettes, studybooks, whole numbers, fractions, decimals.
Publisher: Merrill

Title: Money Makes Sense
Skills Emphasis: Addition, coin recognition, relative value of coins and one dollar bill.
Publisher: Fearon

Title: Programmed Mathematics, Series 2
Skills Emphasis: Individualized programmed books for high school mathematics; designed for the reluctant reader.
Publisher: Webster Division/McGraw Hill

Title: Real Life Math Skills
Skills Emphasis: A workbook program that gives students the basic arithmetic skills competency so essential in their lives in and out of school.
Publisher: Scholastic

Title: Scott Geoboards
Skills Emphasis: Geoboards for using geoboard activity card; sets of cards for using boards.
Publisher: Creative Publications

Title: Sports in Things:High Interest Math Series
Skills Emphasis: Basic math computation, fractions, decimals, percents.
Publisher: Educational Insights

Title: Steps to Mathematics, Books 1 and 2
Skills Emphasis: Fundamental operations (addition, subtraction, multiplication, division) with whole numbers.
Publisher: Steck-Vaughn

Title: Synchromath Experiences
Skills Emphasis: Remedial mathematics for junior and senior high schools.
Publisher: Rand-McNally

Title: Tangle Table
Skills Emphasis: Remedial practice in computation.
Publisher: Creative Publications

F. Secondary Level Mathematics Materials

Title: Winning Touch
Skills Emphasis: Increased knowledge of multiplication facts.
Publisher: Unversity Publishing Company

Title: Functional Math Program
Skills Emphasis: Includes the understanding of fractions, averages, division, percent, subtraction, multiplication, and addition.
Publisher: Interpretative Education, A DIvision of I.E. Products, Inc.

G. General Materials For Mathematics Intervention

Title	Publisher, Date	Grade Level	Content	Comments
Math-Core				
The Learning Skills Series - Arithmetic	McGraw-Hill, Webster Division, 1975	Grade Level 5-12	Text, workbooks, Teacher's Edition	Part of series for "Children With Learning Difficulties" 4 books, each for a different unit, designed for individualized instruction
Mathematics for Individual Achievement	Houghton Mifflin Co., 1974	Grade Level K-8	Text, ditto masters, workbooks, pre and post tests	Available in regular or metric; recommended as a core program for students to work at own pace; designed for mastery of basic skills; separate book for each level, levels loosely correspond to grades
Math-Supplementary				
Target Series	Mafex Associates, 1971	Grade Level 7-12	Workbooks	Variety of exercises for applying arithmetical concepts to family, social, and employment situations
Understanding Decimals	Enrich, 1973	Grade Level 6-12	Teaching machine	Teaches students the decimal system, how to figure and check, and estimating size of answer to facilitate computation; linear programming format; close teacher supervision necessary
Individualizing Mathematics	Addison-Wesley Publishing Co., 1970	Grade Level 7-12	Text, consumable booklets, activity cards, testing program	3 sequences, roughly coinciding with grades 7, 8 and 9, have motivational phase, mainstream phase, in-depth phase, and complete testing program; designed for remedial use

(Math-Supplementary - continued)

SRA Mathematics Learning System	Science Research Associates, 1974	Grade Level K-8	Text	Informal approach relates math to real world with photos; teaches basic computational skills, metric system, and geometry; kit includes material for diagnosis, instruction, practice, testing, recycling, extension, and maintenance
Useful Arithmetic Volume 1 and 2	Frank E. Richards Publishing Co., 1975	Grade Level 9-12 and adult	Text	Applied arithmetic; unit includes grocery bill, cost of transportation, eating in restaurants, and other everyday situations
Success With Mathematics 1,2 and 3	Addison-Wesley Publishing co., 1974	Grade Level 7-9	3 texts, masters, skill cards	For low achievers; each lesson begins with activity requiring little or no written work, followed by discussion and drill
Non-graded Mathematics Topic - Texts	Charles Merrill Publishing Co., 1974	Grade Level 3-9	Ditto masters	To be used with Merrill Skill tapes; set has 8 titles, e.g., base ten system, addition of whole numbers, operations with fractions, etc.
Refresher Mathematics	Allyn & Bacon, Inc., 1974	Grade Level 7-12	Text	Refresher or remedial text in general mathematics with emphasis on the fundamental operations of arithmetic; includes keyed inventory tests, diagnostic tests, reviews, and maintenance tests
Special Ed Programmed Arithmetic	Mafex Associates, 1975	Grade Level 7-12	Tests, exercise cards, practice cards	Identifies areas of weakness and gives remedial work; individualized instruction

(Math-Supplementary - continued)

Mental Computation	Science Research Associates, 1971	Grade Level 2-7	Booklets	Develops skills of computing without use of pencil and paper; each skill introduced by a word problem followed by steps for solving problem mentally; independent exercises included
Metric Measurement Program	Science Research Associates, 1975	Grade Level 1-12	Activity cards, audio tapes, measuring kit, masters	Provides experiences in measuring length, area, volume, mass, and temperature; minimal reading skills needed
Math from Rock Bottom	Charles Merrill Publishing Co., 1974	Grade Level 5-8	Booklets, study guides, cassettes, narrative books, teacher's guide	Cartoon-illustrated narrative; main character "invents" counting and 4 arithmetic operation tape permits poor readers to follow along study guide reinforces concepts
Mathematics for Schools - An Integrated Series	Addison-Wesley Publishing Co., 1970-1974	Grade Level K-7	17 consumable and nonconsumable paperback books, teacher's resource books, child marking answer books	Reflects British "open-ended approach"; children begin with a real situation and progress through doing and discussion activities into practice activities
Mastering Mathematics Series	Sadlier, Inc., 1971	Grade Level K-8	Booklets	"A non-graded program for reluctant learners and students with reading problems"; 5-book series - each with teacher edition, readiness and beginning books
Mathematics Drill Tapes	International Teaching Tapes, 1972	Grade Level 1-8	Tapes, student activity sheets	160 taped lessons for drills in basic computational skills; program divided into 8 subject units sets, e.g., addition, subtraction, multiplication, division, etc.

(Math-Supplementary - continued)

Holt's Elementary Math	Holt, Rinehart and Winston, Inc., 1970	Grade Level 1-8	Transparencies	8 levels, each with 6 units; unit 1 is basic (concept of sets, fractions, etc.) unit 8 covers geometry, decimals, statistics, etc.
Numble	Educational Aids and Supplies of Tomorrow, Inc., 1974-1975	Grade Level 2-9	Game	A crossword-puzzle numbers game using addition, subtraction, multiplication, and division
Twin Choice and Come Out Even	Holt, Rinehart and Winston, Inc., 1974	Grade Level 1-8	Cards	10 decks of cards to help pupils sharpen computational and problem solving skills
Think Metric	Educational Activities, 1974	Grade Level 4-8	Filmstrips, records, cassettes	Teaches metric system in relation to standard measure; involves conversion using length, weight, capacity; can be used one-to-one, or for small or large group instruction
The Metric System	Addison-Wesley Publishing Co., 1974	Grade Level 4-8	Softbound book	Supplement to math or science program; introduces the metric system through activities and investigations
TUF	Avalon-Hill Co., 1969	Grade Level 3-12, and adult	Game	Based on number sentences or equations that can be played in a group or individually
Think Metric	South-Western Publishing Co., 1975	Grade Level 6-8	Workbook	Self-teaching text workbook designed to give the student practice using metric denominators; provides a review of decimals then concentrates on various base units of measurement characteristic of the metric system; student can proceed at own pace

Using Money Series	Frank E. Richards Publishing Co., 1973	Reading Level 1-4; Interest Level 7-12	Workbook	Work dealing with practical finance
Dominoes, Decimal-Fraction	Responsive Environment, 1971	Grade Level 5-8	Game	Sturdy plywood dominoes that show common fractions, percentages, decimal fractions, and pictorial fractions for matching
Dominoes, Fraction	Responsive Environment, 1971	Grade Level 5-7	Game	Introduction to fractions; written and pictorial fractions for matching
Going Metric	Addison-Wesley Publishing Co., 1975	Grade Level Set C, 5-7	Ditto masters	Introduces the metric system through activities
Cross Number Puzzles	Ideal School Supply Co., 1971	Grade Level 1-12	Puzzle cards	6 boxes with puzzles involving finding end number; similar to magic square
Decimal Numbers	Grolier Educational Corp., 1972	Reading Level 4	Books	Teaches conversion of numerical fractions to decimals and vice versa, placement of decimal point, rounding off decimal numbers, calculating percentages, etc.; basically a drill unit for 4th grade reading level; recommended for remedial use
Basic Mathematics	Educational Activities, 1972, 1973, 1974	Grade Level Set 2, 6-9	Records or cassettes, worksheets	Each recording teaches 4-8 complete single concept, self-directing, and self-correcting lessons; answers are given after each lesson; can be used for class drill or independent study

(Math-Supplementary - continued)

Continuous Progress Laboratories	Educational Progress Corp., 1972	Grade Level 1-8	Cards, cassettes	Each grade level has a program, each program has a set of tapes at grade level, lesson cards, teacher resource materials, and student progress books
Arithmetic Series	Milliken Publishing Co., 1975	Grade Level 4-6	Duplicating masters	Independent activities that require minimal supervision
Basic Mathematics	Charles E. Merrill Publishing Co., 1974	Grade Level 7-9	Duplicating masters, pre and post tests, "roundups", supplemental pages	Cartoon format and daily learning success to motivate low achiever; each lesson is to be completed in 1 class period without homework assignments; each kit covers 1 year
Arithmetic Step by Step - Kit B	Continental Press Co., 1971	Grade Level 3-6	Duplicating masters	For remedial use and for students with learning problems; 10 units - counting, place value, addition, subtraction, multiplication, division, fractions, money, measures, graphs, decimals, percentages; each unit has 3 levels and a short diagnostic pretest
Animated Arithmetic	Mafex Associates	Grade Level 1-8	Paperback workbook	Computation and word problems presented via cartoon characters; suitable for independent study
Arithmetic (Intermediate Series) Holt Adult Basic Education Series	Holt, Rinehart and Winston, Inc.	Grade Level 4-7	Paperback books	Basic elementary curriculum in arithmetic from initial concepts through the 4 arithmetical operations; not enough information available to determine whether it can be used for core program

(Math-Supplementary - continued)

Metric System Skills	Educational Activities, 1974	Grade Level 4-8	Tapes, records	Development series of skills and drills on fundamentals of the metric system
Mathematics Skill Builders, 3rd ed.	South-Western Publishing Co., 1975	Grade Level 7-9	Workbook	Thorough review of fundamentals of math; practical exercises and 80 tests written in script
Mathematics in Living	Pruett Press, Inc., 1975	Grade Level 7-9	Books	Relates to everyday situations in: Buying, wages and budgets, banking and loans, credit, and taxes
Supermarket	Fern Tripp	Grade Level 5-7	Worktext	Simple everyday math problems in grocery buying including makin change, check writing, can size, weight, etc.
Sum Up	Educational Aids and Supplies of Tomorrow, Inc., 1974	Grade Level 3-12	Game	2-8 players compete against each other and time to create high-scoring mathematical equations; each round calls for a different type of equation involving addition, subtraction, multiplication and division
Practical Applications in Mathematics	Allyn & Bacon, Inc., 1975	Grade Level 7-12	Text	Comprehensive practice book in general math; good for supplement to basal text in arithmetic or general math; includes relevant consumer application exercises
Mathematics for the Consumer	South-Western Publishing Co., 1975	Grade Level 10-12	Textbooks, problems	Everyday consumer problems for students of varying abilities; 5-step learning plan and a planned program of review ensure mastery of new skills and retention of previousl learned skills

Mastery Arithmetic Drills and Tests	Addison-Wesley Publishing Co., 1974-1975	Grade Level 1-9	Duplicating masters	Drills, exercises, reviews, and practices for use without extensive teacher direction
Know the Essentials of Math	Addison-Wesley Publishing Co., 1974-1975	Grade Level 1-6	Duplicating masters	Used for review, practice, drill
Dyna Math	Macmillan Company, 1975	Grade Level 6-9	Texts, manipulatives, cassettes, ditto masters	For underachievers; offers alternative to basal instruction through "hands on" activities, self-directed and self-pacing materials, and special nonreading materials to review and upgrade computational skills
Elementary Math	Charles E. Merrill Publishing Co., 1974	Grade Level 1-8	Duplicating sheets	For classroom use; each page is to be completed after the concept has been presented from the classroom textbook
Essentials of Mathematics, Skills and Concepts	Ginn, 1975	Grade Level 7-12	Texts	Teaches below grade-level readers and slow learners basic math skills through games, activities, experiments, pictures, and diagrams; minimal, simple reading and highly visual
Explora Tapes - Mathematics	International Teaching Tapes, 1975	Grade Level 4-12	Tapes	Provides enrichment materials and allows students to study on their own and in-depth those math concepts not included in the usual math class; activity sheet encourages students to participate as they listen to the cassette by answering questions, drawing pictures, examining illustrations, or making models

(Math-Supplementary - continued)

Foundation Mathematics	McGraw-Hill Webster Division, 1975	Grade Level 9	Text, workbook	Gives the slower math student practical content he can understand and the non-college-bound student math he needs in his daily life and work; reviews decimals, percentages, and fractions as well as "business" mathematics
Fractions	McGraw-Hill Webster Division, 1966	Grade Level 6-8	Text	A complete unit on fractions for introductory drill, makeup, review, remediation
Educational Development Lab	McGraw-Hill, 1974	Grade Level 7-8	Cassettes, answer books, ditto masters, manipulatives, filmstrips, games, diagnostic tests	Diagnosis, review of prerequisite skills, and concept introdution through modeling, key concept development, concept enrichment, practice and reinforcement, and skill drill

From: Libby Goodman and Lester Mann,
Learning Disabilities in The Secondary School,
Grune and Stratton, New York, 1976,
pages 157-166, Reprinted with permission

H. References

Adamson, G., Shrago, M., & Van Etten, G. *Basic educational skills inventory: Math* (Level A and Level B). Olathe, Kans.; Select-Ed., 1972.

Alley, G.R. Grouping secondary learning disabilities students according to teaching method and material. *Academic Therapy*, 1977, 13, 37-45.

Ashlock, R.B. *Error patterns in computation: A semi-programmed approach*. Columbus, Ohio: Merrill, 1972.

Beatty, L.S., Madden, R., & Gardner, E.F. *Stanford diagnostic arithmetic test* (Level I and Level II). New York: Harcourt Brace Jovanovich, 1966.

Bloom, B.S. (Ed.) *Taxonomy of educational objectives. Handbook I: Cognitive domain*. New York: McKay, 1956.

Brueckner, L.J. *Diagnostic tests and self-helps in arithmetic*. Monterey, California.; CTB/McGraw-Hill, 1955.

Brueckner, L.J., & Bond, G.L. *The diagnosis and treatment of learning difficulties*. New York: Appleton-Century-Crofts, 1955.

Buswell, G.T., & John, L. *Diagnostic chart for fundamental processes in arithmetic*. Indianapolis: Bobbs-Merrill, 1925.

Cawley, J.F. *Math curricula for the secondary learning disabled student*. Paper presented at a symposium on learning disabilities in the secondary schools. Norristown, Pa., March 1975.

Connolly, A.J., Nachtman, W., & Pritchett, E.M. *Key math diagnostic arithmetic test*. Circle Pines, Minn.: American Guidance Service, 1971.

Cox, L.S. Diagnosing and remediating systematic errors in addition and subtraction computations. *The Arithmetic Teacher*, 1975, 22, 151-157.

Dunn, L.M., & Markwardt, F.C. *Peabody individual achievement test* Circle Pines, Minn.: American Guidance Service, 1970.

Durost, W., Bixler, H., Wrightstone, W., Prescott, B., & Balow, I. *Metropolitan achievement tests*. New York: Harcourt Brace Jovanovich, 1971.

Dutton, W.H., & Adams, L.J. *Arithmetic for teachers*. Englewood Cliffs, N.J.: Prentice-Hall, 1961.

Earp, N.W. "Procedures for teaching reading in mathematics." *The Arithmetic Teacher*, 1970, 17, 575-579.

Enstrom, J.M. *A training program to teach learning disabled elementary students to monitor their errors in computational mathematics*. Unpublished master's thesis. University of Kansas, 1977.

Fairfax County Public Schools. *Mathematics program of studies*. Fairfax, Va.: Fairfax County Public Schools, Dept. of Instructional Services, Division of Curriculum Services, 1974.

Goodstein, H.A. "Assessment and programming in mathematics for the handicapped." *Focus on Exceptional Children*. 1975, 7, 1-11.

Hammill, D.D., & Bartel, N.R. *Teaching children with learning and behavior problems*. Boston: Allyn and Bacon, 1975.

Jastak, J.F., & Jastak, S.R. *Wide range achievement test*. Wilmington, Del.: Guidance Associates, 1965.

LeBlanc, J.R. "You can teach problem solving." *The Arithmetic Teacher*, 1977, 25, 16-20.

Marks, J.L., Purdy, C.R., & Kinney, L.B. *Teaching arithmetic for understanding*. New York: McGraw-Hill, 1958.

Otto, W., McMenemy, R.A., & Smith, R.J. *Corrective and remedial teaching*. (2nd ed.) Boston: Houghton Mifflin, 1973.

Peterson, D.L. *Functional mathematics for the mentally retarded*. Columbus, Ohio: Charles E. Merrill, 1973.

Reisman, F.K. *A guide to the diagnostic teaching of arithmetic*. Columbus, Ohio: Charles E. Merrill, 1972.

Smith, R.M. (Ed.). *Teacher diagnosis of educational difficulties*. Columbus, Ohio: Charles E. Merrill, 1969.

Smith, R.M. *Clinical teaching: Methods of instruction for the retarded*. (2nd ed.) New York: McGraw-Hill, 1974.

Spencer, E.F., & Smith, R.M. Arithmetic skills. In R.M. Smith (Ed.), *Teacher diagnosis of educational difficulties*. Columbus, Ohio: Charles E. Merrill, 1969.

Suppes, P. "Some theoretical models for mathematics learning." *Journal of Research Development in Education*, 1967, I, 5-22.

Thorpe, L.P., Lefever, D.W., & Naslund, R.A. *SRA achievement series in arithmetic*. Chicago: Science Research Associates, 1964.

Tiegs, E.W., & Clark, W.W. *California achievement tests*. Monterey, Calif.: California Test Bureau, 1963.

Trueblood, C.R. Promoting problem-solving skills through nonverbal problems. *The Arithmetic Teacher*, 1969, 16, 7-9.

Vos, K.F. The effects of three instructional strategies on problem-solving behaviors in secondary school mathematics. *Journal for Research in Mathematics Education*. 1976, 7, 265-275.

Wallace, G., & Kauffman, J.M. *Teaching children with learning problems*. (2nd ed.) Columbus, Ohio: Charles E. Merrill, 1978.

Wallace, G., & McLoughlin, J.A. *Learning disabilities: Concepts and characteristics*. Columbus. Ohio: Charles E. Merrill, 1975.

V. Handwriting

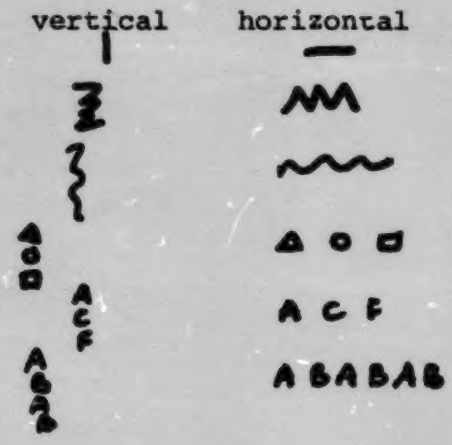
A. Assessment Techniques of Handwriting Skills

A good handwriting evaluation should include:

1. production of straight lines

   production of stop action lines

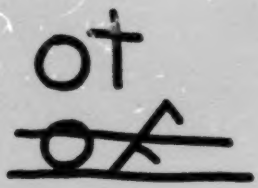
   production of continuous action lines
2. production of isolated forms
3. production of isolated letters
4. production of a sequence of forms and/or letters
5. words copied from the same page
6. words copied from the board
7. dictation of words to be written
8. dictation of sentences
9. spontaneous production of sentence, etc.



Before you begin this procedure, it is wise to gauge the speeds you expect. The simplest way to do this is to take a stopwatch, start it when you give an assignment, and stop it at the time you "feel" the assignment should be finished. You can then restart it and stop it at the time the child you're observing finishes. You can also give an assignment; start the watch; and stop it at a given point (ex. 10", or 1 minute, etc.) and count the number of words the child in question produces as compared to his classmates. The speed factor is an especially critical one for older students, and for timed test situations.

1. Informal Observation of Handwriting

As the child is working, you can observe his/her behavior, and the types of errors he/she makes and begin to formulate possibilities for the source of the difficulty.

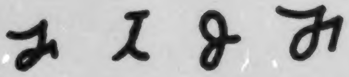
Possible Source of Error	Error	Example of Error Printed	Example of Error Read	Type of Error
Visual attention	Deletion of letters	start	star	Substitution
	Deletion of words or parts of words	going John saw Mary run.	go John saw Mary.	Omission
	Misperception of letter form	run	nun	
	Substitution of letters	sun		
	Substitution of words	John saw Mary	John ran Mary	Substitution
	Spacing confusions	John saw Mary	John saw	
	Substitution of letters highly similar in form e-c t-h f-r a-o g-q i-j r-n g-j K-R t-f k-h y-j h-n c-o y-g m-n C-G y-u F-E		cop	(Letter distortion or) letter confusion
	Squinting			
	Head turned to one side.			
	Large letter sizes. Uneven spacing on lines.			
	Substitution of letters similar in form	nat	rat	Whole word substitution based on letter confusion
	Losing place frequently.			
	Difficulty locating words on page.			
	More difficulty with lower case letters than upper case letters.			

Possible Source of Error	Error	Example of Error Printed	Example of Error Read	Type of Error
	Hesitations			
	Squinting			
	Eye rubbing			
	Head turning			
	Spacing confusions			
	Large letter formation	at	at	
Spatial Relationships	Letter Substitution based on vertical directions: u-n m-w p-b	pet	bet	
	Letter substitutions based on horizontal directional confusions: d-b q-p g-p q-g	dad	bad	
	Inability to locate letters or words on page			
	Difficulty returning from right hand to left hand side of page			
	Written confusions not present in oral spelling: mirror reversals (total words)	read	ᗡAƎЯ	
	top to bottom reversals	read	DEꓯꓤ	
	right to left reversals	dog saw	god was	
	near to far reversals	read	ʁEAD	
	Single letter or partial rotations;	z	N	
	Clockwise vertical rotations;	u p	n d	

Possible Source of Error	Error	Example of Error Printed	Read	Type of Error
	right-left or horizontal rotations	R		
		b	d	
		p	q	
	Letter juxtapositions or sequence confusions	bright	birhgt	
Visual Memory	Deletion of letters	there	tere	
	Addition of letters	white	wheite	
	Substitution on beginning letters			
	Ability to write words longer than (e.g.,) three letters.			
	Unrelated words spelled	cat	bad	
Visual Sequencing	Deletion of letters	first	fist	
	Addition of letters			
	Substitution by beginning letters	can	come	
	Errors in syllabication	upstairs	ust-pairs	
	Ability to call words of (e.g.,) three letters			
	Confusions based on word shape	little	brittle	
	Letters present but transposed	farm	fram	
Visual Closure	Segmented letters			
	Inability to fill in dot patterns			
	difficulties with fill-in-the blank question			
Auditory Attention	Substitution of sounds	dun	ton	
	Misinterpreting directions			
	Substitution of words			

Possible Source of Error	Error	Example of Error		Type of Error
		Printed	Read	
Auditory Acuity	Substitution of similar sounds	sun	zun	
Auditory Figure-Ground	Sounds substituted in words	that	thad	
	Confusion of highly similar sounds	pen	pin	
	whole word confusion of similar words	nun	run	
	Inattentiveness			
	Fatigue			
Auditory Discrimination	Sounds substituted in words			
	Words confused	ham	hand	
	Inability to differentiate sounds within words			
Auditory-Visual Association	Whole word substitution	cat	come	
	Deficiency in vocabulary			
	Simple sentence structure			
Auditory Blending	Ability to sound letters within word, but unable to call total word	str-eet	steet	Blending
	Ability to sound only familiar words			
Auditory Closure	Inability to differentiate individual sounds within words			
	Inability to supply missing sounds in words			

Possible Source of Error	Error	Example of Error		Type of Error
		Printed	Read	
Auditory Sequencing	Difficulties in blending and closure; may delete words or parts of words	John saw Mary	John saw	
	Focus on essential sounds			
	Focus on essential words			
	Difficulties following directions involving several actions			
	Difficulties with sounds in words	animal	aminals	
	difficulties in using multisyllable words in writing			
Auditory Memory	Focus on specific parts of words			
	beginning of words	cat	come	
	ending sounds	cat	bat	
	Low vacabulary			
	Unable to "think of anything to say or write"			
Auditory Association	Low vocabulary, especially comparative or descriptive words			
	Literal recall			
Grasp Pattern	Grasp too tight (bent knuckle grasp)			
	Grasp too relaxed			
	Point of grasp too high			
	Point of grasp too low			
	Entrapment by fingers			
	Entrapment by thumb			
Paper Position	Paper too far to right			
	Paper too far to left			
	Paper slanted			
	Frequent erasures			
Postural and Bilateral Integration	Not crossing midline			
	Not establishing lead hand and assist hand			

Possible Source of Error	Error	Example of Error Printed	Example of Error Read	Type of Error
	Trailing	The		
	Tremors			
	Tears in paper	The		
Kinesthetic Areas	Telescoping	any	the any the	
	Frequent erasures			
	Inability to recall how to form letters			
	Confusions between manuscript and cursive			
	Confusion in highly similar forms			
Posture	Could not stabilize, too much pressure on forearm			
	Difficulty in letters with directional shifts (difficulties with half-spaces and whole spaces)			
	Pressure on wrist			
	"Propping" head with arm			
Motor Control	Large or small letter size			
	Tremors			
	Segmentation			
	Change in writing size as writing progresses			
	Fatigue			
	Over-flow "fisting"			
	Uneven movements			

2. Formal Assessment of Handwriting

In looking at a given writing sample, there are three factors to observe when deciding whether a writing style is functional for classroom work:

1. speed: We've already discussed speed previously in terms of methods of computation and comparison to given classroom samples and individual teacher requirements.

2. duration: Refers to the amount of writing to be produced. Some students can write accurately with adequate speed only for short periods of writing and then begin to have difficulty. Some cannot keep a writing rhythm going across a line of paper. Others can produce the required amount of writing, but need additional time.

3. accuracy: Refers more directly to what is observed in looking at a child's paper. This brings in the actual letter formations, spacing, erasures, etc. which go into making up the "looks" of a given sample.

The following checklist is intended to be a guide to observing and evaluating an individual child's handwriting and functional productivity. By relating the behaviors you observe to possible basic skills, you may discover a learning pattern.

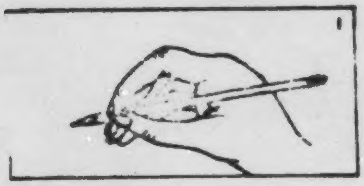
There may be times when further standardized testing is needed to give a more definitive analysis in a given area and still other times when an in-depth referral by another professional is needed. This quick chart is offered as a guide should this type of situation arise:

Area	Standardized Test	Professional Referral
coordination	Lincoln-Oseretski	neurologist, physical therapist
perception	Ayers Batteries Berry-Buctenica (Visual Motor Integration Test) Frostig Test of Visual Perception Purdue Perceptual Battery Harrison Laterality-Directionality Test	occupational therapist optometrist, opthamologist
pencil grasp		occupational therapist

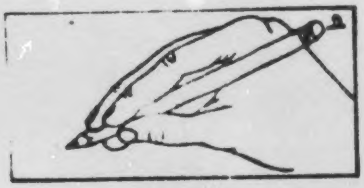
3. HANDWRITING CHECKLIST

1. Posture
   a. chair too low (table too high) ____
   b. chair too high (table too low) ____
   c. chair too large ____
   d. chair too small ____
   e. head ___ to ___ inches from paper ____
   f. head less than ___ to ___ from paper ____ (about how far ____)
   g. head more than ___ to ___ from paper ____ (about how far ____)
   h. shoulders in alignment ____
   i. right shoulder too far forward ____
   j. left shoulder too far forward ____
   k. both shoulders forward ____
   l. weight on forearm ____
   m. weight on wrists ____
   n. weight on lower back ____
   o. arm curved in writing, motion from shoulder ____
   p. arm straight ____
   q. elbow down ____
   r. elbow up ____
   s. elbow rise as writes across the page ____
   t. wrist down ____
   u. wrist up ____
   v. wrist "cocked" ____
   w. frequent posture shifts ____
   x. fatique noted ____

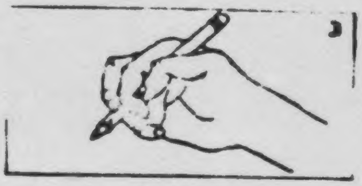
2. Grasp



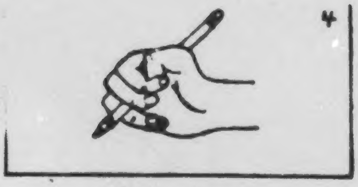
expected



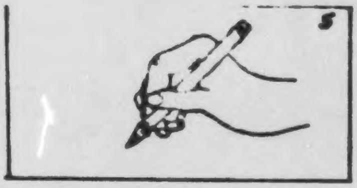
straight finger



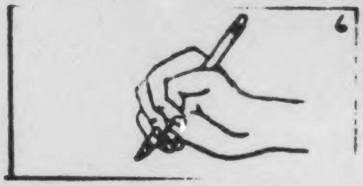
finger trap



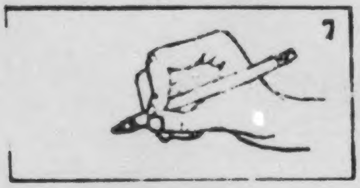
fisted



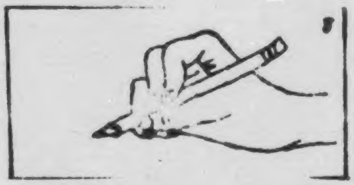
thumb-first finger



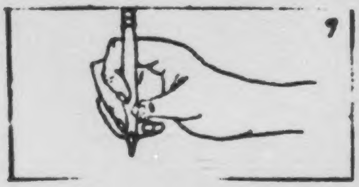
overlap



bent knuckle

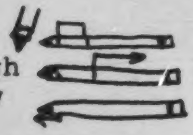


bent knuckle



3. Point of grasp on pencil shaft

app.
too high
too low



4. Error Checklist

1. orientation:
    - begins on right ____
    - begins on left ____
    - Begins at top ______
    - begins at bottom ____
    - begins at middle ____
    - inconsistent __
    - consistent ____

2. spacing
    - too much space between letters/words ____
    - too little space between letters/words ____
    - letters/words overlap _____
    - lines overlap ____
    - margins ignored ____
    - restricts writing space:
        - corner ____
        - side _____
        - half-page ___

3. reversals
    - (clockwise) vertical (u-n, m-w, p-b) ____
    - (right-left) horizontal (b-d, p-q, g-p, q-g) ____
    - mirror ____
    - top to bottom ____
    - right to left ____

4. sequence confusions
    - letters in words ____
    - words in sentences ____
    - deletion letters/words ____
    - addition letters/words ____

5. form production difficulties:
    - a. letter confusions ____
    - b. telescoping ____
    - c. tremors ____
    - d. trailing ___
    - e. segmentation of letters ____
    - f. uneven pencil pressure ____
    - g. letters too large ____
    - h. letters too small ____
    - i. letter size variable ___
        - bigger left than right side of page ____
        - bigger right size then left ____
        - bigger top of page than bottom ____
        - bigger bottom than top ____

6. time:

____words produced per____ slow for class ______
average for class ____
fast for class ____

7. writing size:
increase across page ____decrease across page ____
increase down page ____ decrease down page ____

6. Motor

1. midline crossing:
_____consistent
_____inconsistant
_____not crossed
_____switches hands

2. tremors
_____hand
_____constant tremor
_____attention tremor
_____tremor only in writing, nor observed in hands or arm

3. overflow
_____right hand
_____left hand

4. mirror motions
_____right hand
_____left hand

5. motor sequencing
_____right hand
_____left hand
_____both hands together

B. TEACHING APPROACHES FOR HANDWRITING

Children with handwriting difficulties are often unintentionally handicapped in school by (1) slowness that prevents their finishing work (2) sloppy reproductions that are hard to read because of erasures, poor letter formation, or irregular spacing and (3) an inability to express their knowledge or ideas in a written fashion.

This leaves the teacher with two problems (1) a need to remediate the actual handwriting difficulties and (2) a need to provide the student with some way of communicating in the classroom. For these reasons, this section will have two subsections: (a) will be actual techniques for teaching handwriting, and (b) will be methods and materials for supporting a student in a regular classroom.

In recent years the teaching of handwriting has received new attention in educational literature. The major source of discussion centers around the use of motor movements and perceptual exercises to teach handwriting. There has been strong criticism of the use of programs which emphasize non-letter shapes, matching exercises, etc. Some opinions stress not beginning handwriting until late in the first grade year; others stress an intensive use of perceptual-motor activities in kindergarten and first grade; and still others believe in working directly with the handwriting skills focusing on individual skills. The approach taken in this booklet is actually a combination of approaches; (1) emphasis on establishing motor patterns and prewriting skills and (2) applied practice in letter forms.

In selecting a particular approach to working with handwriting, it is wise to know which thing (or things), is causing the difficulty. This does not alter the sequence which we use, but it does tell us what "extra" cues to add for the child. Look at the table below. It gives skill deficits and then possible additional cues which might be added in the remedial process.

Deficit Area	Cue Area	Example
visual	auditory	* the child talks out the movement
	tactile	* the child traces form/letter/word, turns it over, and then writes it
	kinesthetic	* the child oooks at the word; writes it in the air; turns the card over; and writes it on his paper
	visual	* the letters which the child remembers are colored black and each extra letter is given a color (ex. red)
		* the letters a child remembers are a normal size, but the extra letters are written in a different size

Deficit Area	Cue Area	Example
lomesthetic	auditory	* the child can "talk out" his movements as he makes them or the teacher can do this for him
	tactile	* the child can trace over a form before writing it (especially a form made in the same color as the background)
	visual	* the use of arrows can be a visual cue to making the letters
	kinesthetic	* the child can be asked to write in a clay tray before writing on paper (the deeper the clay the greater the resistance)

These types of examples cover only one additional cue area, but as you know, you may wish to provide several cues at a time for several problems:

visual memory	the child traces over this form cut from cardboard and placed over a clay tray, then writes the letter

In the suggested writing sequence, we've added other examples of types of cues which might be added in each step. The focus of this particular sequence is establishment of motor control and motor movements.

1. Instructional Sequence - Areas Affecting Motor Movement

MOTOR CONTROL Area	Sequence of Skills	Suggestions, etc.
Writing Skills: Often writing difficulties can be helped by careful preparation of materials and emphasis on sequencing steps.		
There are several general principles to keep in mind -work from large, gross movements to small movements -work from large surfaces to small -work top to bottom, left to right.	Phase I. Working on a large unlined surface such as a black board or a large piece of paper such as brown wrapping paper.	Note: These are children who have poor "memory for movement" and who may need extra practice with special cuing by using tactile (touch), or kinesthetic (movement) or visual methods. If special cuing is needed, work from the big to the small.
	Stage I. The child begins by making movements with one hand in one direction beginning with (a) vertical lines in moving to (b) horizontal lines then to (c) circles. When the child begins making circles, the parents or teacher should be sure that he is beginning at the top and working in a clockwise direction.	ex. (1) tactile- You may use a long strip of (ex) burlap for the child to trace before making the mark on the big strip of paper. (2) kinesthetic-the child "might walk" out the motion on the floor, or in the case of letters use something similar to the Kirschner Body Alphabet. (3) Visual- the child is shown the motion visually with a picture illustration or pantomine. (4) Auditory-the child "tslks out" the movement.
	State II. The next step is to have the child make movements with his non-dominant hand in one direction. Again repeating the process of beginning with vertical lines and horizontal then moving to circles.	
	Stage III. The child begins making movement with two hands together in the same direction again making vertical lines, horizontal lines and circles. At this point the parent or	

Area	Sequence of Skills	Suggestions, etc.
	the child is not completing the movement with one hand and then repeating it with the other.	
	Stage IV. At this phase the child is using both hands together, but moves them in opposing directions in making vertical lines, horizontal lines and finally circles.	
	Stage V. The child traces over individual designs such as circles, triangles, squares, etc.	Note: After a child is able to successfully trace over geometric designs, capital manuscript (print) letters may be introduced, beginning with the "stick" letters (A,E,F, H,I,L,M,N,T,V,W,X), moving to the "circle" letters (C,G,O,Q),and finally to "combinatior letters (B,D,J,K,U,X,P, R,Y,Z,)
	Stage VI. The child copies designs from the same surface Again using standard geometric design.	
	Stage VII. The child that ask to spontaneously produce or to draw the designs he has previously been tracing or copying.	
	Stage VIII. The child produces a sequence of designs.	
	This procedure is generally started on black board or a large piece of paper. When the child reaches the point where he is able to reproduce the sequence of designs, he is moved to a smaller piece of paper such as big size art paper or news print and the sequence is repeated. Gradually the size of the unlined paper is reduced until the paper is standard 8x11 size used in the classroom.	Note: Generally vertical repetitions are introduced first, followed by horizontal repetitions A general rule of thumb used by many is: (1) begin with stop-motion forms moving to continuous motion forms , finally to circular motions.
	Phase II. The above sequence is reqeated on unlined paper, beginning with large "newsprint" size paper and gradually reducing the paper size until it is the standard 8x11 size.	Note: For cursive letters begin with "up-down" letters (l,t,e,i,) "hump" down letters (m,n,u, w,) "circle letters" (c,) (above line half spaces (b,d,h,k) below line half spaces (f,j, g,p,q, ,y)
	Phase III. Working on a lined surface is introduced by (1) dividing a page in half (2) in	

MOTOR CONTROL Area	Sequence of Skills	Suggestions,etc.
	thirds (3) in fourths and (4) in fifths. Some special adaptations can be made by:	
	-exposing only 1 line at a time, then 2 lines, 3 lines, etc. -color cuing the half spaces -color cuing directional orientations (top-bottom, right-left)	
	-using grids for letter placement or spacing difficulties -color-cuing strokes, ex. blue for beginning stroke, red for up stroke, green for down, etc.	(1) seeing an example (2) tracing over a dotted example (3) connecting a dotted example (4) producing the design without props

2. Instructional Sequence - Other Sources of Handwriting Difficulties

PENCIL GRASP

After the areas affecting motor movement, the next most common source of handwriting difficulties lie in pencil grasp. The grasp itself can often give you an idea of where the difficulty may lie, hence how to strengthen the difficulty.

Tight, restricted grasp

(1) take an extra close look at the posture, particularly if the student is learning forward and bringing his weight onto his forearms or wrist. If so, the first step is to set things up so that the student brings his shoulders back into proper alignment, and the weight is redistributed off of the hands. This can be done by placing an object between the student and the writing surface (ex. pillow, beach ball, etc) to prevent his leaning forward. The writing surface can be tilted (ex. slant board, easel, etc), the amount of incline varying with the needs. Or the teacher can experiment with such actions as taping a piece of string to the student's shoulder and the back of his chair as a "reminder", etc.

(2) in this case, the object should be to enlarge the size of the writing implement. This can be done a variety of ways beginning with simple devices such as a spongey hair roller placed over the pencil shaft, or using commercial pencil grips designed for this purpose. (Please note: if hypermobility is the difficulty, do not use the three-sided grips). For greater weaknesses, adapters such as pencils through rubberballs or wadded paper held in the hand is sometimes recommended. However, experience has been that a modeling medium such as clay, or commercial materials such as coldset is more comfortable and easier to manage. It is also easier to reach the appropriate size for the individual.

Tape around gripping point (reverse if needed) to reduce slippage

If the difficulty is a matter of minor motor weakness, there are several types of exercises which have been found to be useful in building muscle tone:

a. rubberband exercises using rubber bands stretched between fingers (either on same had or opposite hands). The thickness of the rubber bands determines the amount of pull the muscles must use to stretch the bands.

b. finger puppets: using finger puppets or faces painted on the fingers, the student is encouraged to move in certain ways (ex. up-down). This helps to teach isolated finger movement, as well as to strengthen control.

c. finger "walking": in addition to the usual walking on non-resistive surfaces, the student can be asked to walk through things (such as jello, water and sand, clay, etc) which build muscle tone through resistance.

The tight grasp may also be an accomodation used by the child who does not stablize his paper with his non-dominant hand, ie. he "holds" the paper in writing by pressing down with the writing hand. In this case, a clip board, magnet board, tape on the paper, etc. to stablize the paper is needed.

In some cases, it may be necessary to vary the grasp itself to produce the combination of control and speed. For people with hypermobile joints, the first finger-midfinger trap is one grasp which relieves the pressure on the joints.

Loose, "floppy" grasp	The variations for remediation in this area are very similar to those listed above. The major focus being on enlarging the writing shaft so that the student can comfortably grasp the pencil. Flat rubberband-wrap around pencil and 3 fingers (PMC)
sequencing, writing speed	Sometimes students will have difficulties in sequencing or maintaining motions, and they seek to adjust to this by tightening up on the grasp. This can then lead to a much slower writing speed. To aide the student in developing the sequencing, the following techniques may be used: a. rhythmic writing: the teacher can clap, beat out a rhythm, or verbally give a rhythm as the child writes, beginning with a slow, steady beat and then increasing the tempo

b. speed writing: do not use with students who have visual closure or visual memory difficulties) for note taking, the student is taught to abbreviate words and to substitute symbols for "little" words.

ex. &, thn (then) th (the), etc.

c. telegraphic writing: the student in this case does not abbreviate words, but does focus on the essential words within sentences, leaving out as many non-essential words as possible:

ex: old man saw big cow (or man saw cow)

SPACING

The next most common area of writing difficulty is in the spacing and placement of work on a page. This is particularly true with the beginning writer. The most common way of handling these difficulties is with the addition of some type of information on the writing paper itself.

If the difficulty in spacing stems from the motor control area, then the procedure recommended in the handwriting sequence is the most functional. The student starts with a surface which takes his writing size into consideration, and then the space in which he words is gradually decreased until it approximates the space size in standard paper.

a. starting with a whole page, a half space line is drawn across the page (and color cued if necessary).

b. the page is divided in half, and a half space above line drawn across the page (and color cued if necessary). Show only one half at a time. After this is accomplished then have the child work with both halves exposed.

c. the same procedure is followed, with the page divided into fourths, then eights. Each time working with 1 section exposed, then two, then three, etc. until the student is working on a total page.

At this point, the student is working on spaces approximately the size of standard primary paper, and is ready to begin with letters going into spaces BELOW the central line. This can be done by color cueing standard writing paper, or by using homemade ditto sheets which have been color-cued. In some cases, it may be necessary to color cue all three spaces (this can be done with three colors of ditto masters (green and red are favorites) or with felt tip HIGHLIGHTERS available at many stationery stores. (You will notice that the three samples attached provide differing types of cues.) There are commercially available papers designed to aid spacing (pg. 72 and 73).

There are other types of papers, particulary graph papers, which can aid the student in spacing between words or letters in words, and are particularly helpful in arithmetic computation. Again, other "helps" might be employed. An extra space is between words which the student has left by coloring in a square on the small graph paper.

Orientation to working direction can be made by using color cues or picture cues as well. The standard green for go (at left) and red for stop (at right) may not be helpful if the student is color blind, so that a wavy line might mean go and a thick line, stop. In some cases, it might be necessary to place a strip of colored paper or fabric to the right margin as a further indicator. In some cases, having the student work with a dark surface (such as black construction paper) behind the writing paper is also helpful.

PAPER STABLIZATION

Another common cause of difficulty are those folks who have difficulty keeping their papers still as they write.

non-dominant hand not on paper	1. tape the hand loosely with masking tape to the proper spot on the table 2. tape the paper down 3. cut out "hand" prints and place them on the paper as a reminder 4. use a clip board 5. use arm weights
presses down with writing hand to hold paper	1. write on slanted surface 2. put small "pillow" or incline under writing hand
over-flow or mirror motions	1. tape the paper, or use clip boards, etc.- weights or magnet board to control overflow

TYPING

It may be necessary for school functioning to develop an alternative to writing. Typing is one of the quickest and most functional ways to provide this alternative. In addition to systems which use a standard keyboard, there are programs using one hand only, and others using keyboard adaptations.

standard keyboard	Typing keys keyboard town Type with one hand
alternated keyboards	Dvovak one-hand typewriter PMV System Prenthe-Romich Company Cybor type

Using one of the adaptations, even severely motor handicapped individuals have learned to communicate in a written form.

CLASSROOM SUPPORT

In addition to teaching the handwriting skills, there is the problem of supporting the student who is in a regular classroom environment for 6 hours a day. Several alternatives can be made in the classroom to enable the student to give information without being penalized by the handwriting:

1. another person in the room may serve as a scribe to write answers which the student dictates, or such devices as a tape recorder may be used to record oral answers. This technique is particularly good for testing situations, or for situations requiring essay types of answers (reports, book reviews, etc.)

2. materials can be constructed so that short answers or multiple choice answers can be given. There are several formats which this might take:

mark out procedures:

President Grant was not despised by certain members of Congress who were against his foreign and domestic policies. There were others who did not object to his personal habits, particularly his drinking.

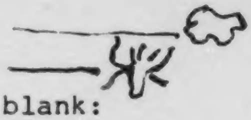
President (Lincoln, Grant) was (despised, liked) by certain members of Congress who were (for, against) his foreign policies.

multiple choice:

The amoeba is a (1) protozoa (2) polyzoa (3) molyzoa

matching:

amoeba
hydra



fill in the blank:

It is important to leave extra spaces between lines, and to provide extra lengths to fill-in-the-blank lines for students with motor control difficulties.

3. Some students do better when their papers are stabilized some way, either by taping papers to the desk, using clipboards, or slant boards to help them keep the papers steady and at the proper angles. Still other students will perform better with non-paper surfaces such as "magic pads" available in discount stores or with chalkboards.

4. There are other ways to giving answers in a manual form, but with the exception of typing, most decrease speed: (1) using small printing sets or stickum letters (2) using alphabet cards or letter clips to form words, or using word cards to form sentences.

5. Typing is an excellent alternative, especially for more severe difficulties, but should be considered with caution for students with visual figure ground difficulties, or with motor sequencing or control problems (adaptations can be made for these difficulties, but care is needed in choosing them).

A child with specific writing difficulties also needs some extra T.L.C. from his teachers who must overlook handwriting errors and focus on the content of the papers. One teacher continually down-graded a fourth grader for his "messy papers," writing frequent comments to the effect that "he could do better," "more effort needed," "working on your capital 'F'," etc. By the end of the year, he had grown sullen and rebellious, refusing to turn in his papers. The fifth grade teacher focused on the content of the papers in subject areas, and gave the boy specific "writing papers" on which he was to concentrate on specific problems. She wisely chose to work on only one problem at a time, and kept his papers to show him his progress. Not only did his writing show a sharp improvement, but a cheerful, willing youngster emerged as well.

The teacher is often faced with many decisions in dealing with such problems. Below are some of the most common questions voiced by teachers and some alternatives which have yielded classroom proven results.

1. If a student has a slow writing speed, how much do I expect from him?

You can gauge this for individual students by giving them papers which you give the rest of the class and count the number of items finished over (ex) ten papers which cover the same amount of working time. If you find the student finished say one-fourth of the amount to be covered, then this is all you should expect from him. Now, you may wish for him to cover this one-fourth from the beginning of the assignment to that point, or you may wish to mark the items which you wish for him to answer, remembering his working speed in choosing the number. One teacher does this automatically by just putting a felt tip mark beside each problem she wishes her "slow writers" to answer. She then gives double credit for all items answered above this number. This works to give the kids some incentive to "speed up."

2. In assigning creative writing, or written reports, how much should I expect?

This again depends on the individual writing speed, and whether you wish to have an error-free report, or whether you wish to have the information. Several teachers have faced this problem in slightly different ways:

a. An English teacher requires the student to identify pertinent facts in the assignment, and to write one complete sentence for each major fact. At a later point, he/she has his/her students write a topic sentence for each paragraph in the "essay" and then gives the rest of the paragraph orally to him.

b. a History teacher requires only that the answer have some logic to it. He uses a variation of the telegraphic writing mentioned previously. In several cases, he has the students "outline" the question with words or short phrases, and grades the outline.

c. an elementary teacher has his/her student use magazine pictures and short phrases to produce both poems and stories for creative writing assignments.

d. another elementary teacher counted the average number of errors that his/her student made in his language arts papers as a result of the handwriting. She then asked the student to "Write the first (two) lines the very best you can." At other times she would allow him/her (ten) free mistakes for the total paper and would count off only after that point.

3. What if the student "gives up" before he/she finishes, even when I shorten the assignment?

Some teachers who have gone to the lengths mentioned above have become frustrated when students essentially "quit" without apparent effort. It is important to remember that students with handwriting difficulties do fatigue very rapidly, and certain types of pencil grasp will increase this fatigue. The problem may be that extra breaks are needed in the assignment, or that it should be reduced still further.

Another source of difficulty is the child's feelings about himself and his/her product...i.e., the paper. In the early grades, a child values himself/herself by what he/she is able to produce, and hence if his/her paper is inferior he/she may grow to view himself as inferior as well. This leads him/her to become discouraged and sometrmes to wonder "Ah, what's the use if it looks so bad?" If this is the case, the emphasis should not on the handwriting, but on the content of the paper. One teacher set a kitchen timer for twice the time she felt it would take her student to complete what she asked of him/her. She told him/her that a "superman" would finish by the time the clock sounded. Naturally, he/she finished before it dinged, and was given lots of pats on the back. Gradually, she set the clock closer to his/her working speed, until he/she was completing papers on schedule. Then, she began to work on specific writing problems, one at a time.

With handwriting, the progress is sometimes discouraging. One teacher asked a student, "Well, Bill, how's it coming?" To which the third grader quipped, "One day at a time, except today." It is important to remember that the results will come from consistent, steady, daily work...and a good dash of T.L.C. from a T.L.T.

Materials for Use in Handwriting

Zaner-Bloser
612 North Park Street
Columbus, Ohio 43215

1. Pencil paper - green tint, 2" ruling 8 x 10 1/2 ruled both sides long way. No. 150170 No. 0-A Paper
2. Pencil paper - green tint, 1" ruling 8 x 10 1/2 ruled both sides long way. No. 150180 No. 1-A Paper
3. Cursive Trac-A-Bit Sets - 6 complete alphabets of capital letters and six alphabets of lower case letters and numerals to be used with grease pencils that can be erased.

The Dobson-Evans Company
1100 West Third Avenue
Columbus, Ohio 43212

1. White primary pencil papet, No. 605, 9 x 12, 1/2 inch alternate rule long way, 1 inch blank space every third line.
2. White primary pencil paper. No. 319, 8 x 10, 3/8 inch alternate rule long way.
3. White primary pencil paper. No. 601, 9 x 12, 3/8 inch alternate rule long way.
4. White primary pencil paper, No. 101R, 9 x 12, 1/2 inch long way every third line heavy, red lines.
5. White primary pencil paper. No. 102R, 9 x 12, 1/4 inch long way fourth line heavy, red lines.
6. Green tint sight saving, 4th grade, No. 444, 8 x 10 1/2, 3/8 inch short way, one side, alternate 5/32 - 7-32 one side.
7. Green tint, primary pencil paper. No. 333X, 8 x 10 1/2, 1/4 inch alternate rule long way one side, 1/2 inch rule long way, one side.

Steck-Vaughn Company
Austin, Texas

1. Imaginary Line Handwriting Beginning Cursive Book.

Reproduced By:
Special Education Instructional Materials Center
North Carolina State Department of Public Instruction
Raleigh, North Carolina 27602

Source of Programs and Materials:

Teaching Resources
100 Boylston Street
Boston, Mass. 02116

Dubnoff School Program
Part 1 (manuscript)
Part II
Part III (cursive)

Developmental Learning Materials
7440 Natchez Ave.
Niles, Ill. 60648

double-handled scissors
weights
sponge balls
Eye-Hand Integration Exercises
vinal writing board
color-cued control paper
spatial organization paper
dot-to-dot sheets (paper)
tracing designs
tracing paper
slant board
pencil grips (three sided)
chubby stubs (large crayons)

Lyons and Carnahan Publishers
Box 7600
Chicago, Ill. 60680

Handwriting with Write and See
(writing program)

Follett Publishing Co.

Keyboard Town (typewriting program) Anna Mae Gallegher

Academic Therapy Publications

Kirshner Body Alphabet

San Rafael, Cal.

Typing Keys (Maetta Davis)

Fred Sammoso, Inc.
Box 32
Brookfield, Ill. 60513

Theraplast
Be O.K. Putty & contsiners
Elastic line Writing Guide
Side Winder Pencil holder
Wrap-Around
Sarong
Wrist hold-down & board
Type with One Hand
(Nina K. Richards)

American Occupational Therapy Association
6000 Executive Blvd.
Rockville,Md. 20852

Dvonak One-Hand Typewriters
3109 W. Augusta Ave.
Phoenix, Arizona 85001

(PMc)

PMV System
Palmstiernas Mekaniska Verkstad Ab. adapted Keyboards
Dobelnsgatan 34-C
S-11352
Stockholm, Sweden
(PMc)

Prentke Romich Company
4512 Young Drive
Wooster, Ohio 44691
(PMc)

Cypertype
2233 Wisconsin Ave., N.W.
Washington, D.C. 20007
(PMc)

Type with One Hand
Nina K. Richardson
Fred Sammoso, Inc.
Box 32
Brookfield, Ill. 60513

D. References

Building Handwriting Skills in Dyslexic Children, ed. John I. Arena; Academic Therapy Publications: San Rafael, Cal; 1970.

The Slow Learner in the Classroom, Newell C. Kephart; Charles C. Merrill; Columbus, Ohio; 1961.

A Writing Manual for Teaching the Left-Handed, Mildred B. Plunkett; Educators Publishing Co; Cambridge, Mass; 1967.

From: Mary Hugenschmidt. *Handwriting*, Buncombe County Schools, Asheville, North Carolina, 1974, Reprinted with permission.

VI. Career - Vocational Education

A. BASIC COMPONENTS OF A CAREER EDUCATION PROGRAM

Career education - those educational experiences through which students learn about work and how to earn a living - prepares ALL students for a successful life by increasing their options for occupational choice, by eliminating barriers to obtaining job skills, and by increasing their chances for achievement in all subject areas and at all levels of education.

The concept of career education is especially promising for handicapped students. By opening up vocational avenues to success, the means are provided to help these students to overcome their physical, mental, or emotional handicaps.

While career education models may use slightly different labels and may vary somewhat in the school structure or student ages at which anticipated developments take place, all models tend to depict the five overlapping stages described below, and which are shown in graphic form, in Figure 1, as proposed by the U.S. Office of Education.

1. Cascade of Services

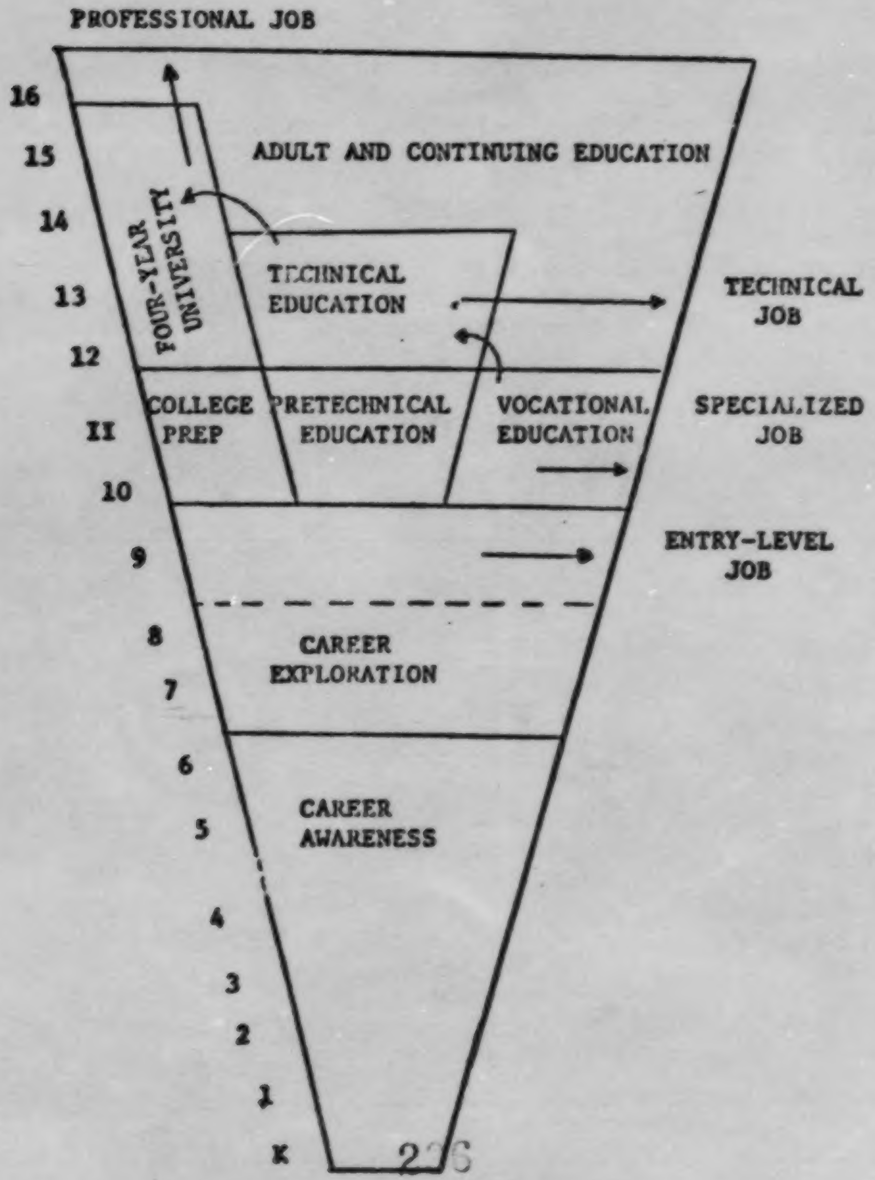

PROFESSIONAL JOB
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
K
ADULT AND CONTINUING EDUCATION
FOUR-YEAR UNIVERSITY
TECHNICAL EDUCATION
TECHNICAL JOB
COLLEGE PREP
PRETECHNICAL EDUCATION
VOCATIONAL EDUCATION
SPECIALIZED JOB
ENTRY-LEVEL JOB
CAREER EXPLORATION
CAREER AWARENESS
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Figure I
Five Developmental States
of a K-12 CAREER EDUCATION Program

2. Five Developmental Stages of a K-12 Career Education Program

1. Occupational awareness and self-awareness, to be developed at the elementary school level, grades K-5 or K-6. The objectives are to help students become aware of the many kinds of jobs that exist (the current Dictionary of Occupational Titles lists 36,000 job titles under 22,000 occupations) and what they involve, begin to understand some basic concepts about the world of work (different jobs bring different kinds of rewards and satisfactions; some workers produce goods and others provide services; geographic location has a bearing on the kinds of jobs available; technology changes eliminate some jobs and create new kinds of jobs), and begin to assess their individual capabilities and preferences in relation to the world of work ("I like doing things outside better than inside"; "I can't draw very well, but I'm better at understanding science than most of my classmates"; "It's more satisfying to accomplish something by myself than to work on a project with a lot of other people").

2. Career orientation and exploration, at the middle school level, grades 6-8, 7-8, or 7-9. Here students begin to see all jobs as part of broad occupational clusters and are given the opportunity to try out some of those clusters, preferably with both on-site observation and hands-on experiences. Building on the occupational and self-awareness established at the first stage, each student's exploration is in those occupational clusters that interest him or her.

3. Specialization and job preparation, at age levels corresponding roughly to high school grades 10-12 or 11-12. Each student begins to move more deeply into his career cluster choice and leaves the school with at least an entry-level saleable skill. Ideally, each young man and woman could begin to opt for preparation leading to a job after high school or for a program leading toward further education at either the sub-baccalaureate technician level or college degree professional level; and the program options would be flexible enough that he or she could slide from one to another of the eucational goals with little difficulty. USOE data indicate that currently only 30 percent of high school students leave high school with a marketable skill; and the announced goal is that within the next ten years at least 60 percent should have a saleable job skill when they leave high school.

4. Advanced career preparation, at the post-secondary level. This will be via further education at one of the nation's fifteen hundred area vocational-technical schools, seven thousand

private trade and technical schools, or higher education institutions granting degrees at the associate, baccalaureate, and/or graduate levels. This stage can take place at any chronological age and might be separated from high school by a period of work, or it might alternate periods of work with periods of further education (and these are reasons that possession of a marketable skill at the end of stage 3 is so important).

5. Adult and continuing education. This is to meet every man and woman's need for continuous skill development and retraining on a lifetime basis. Depending upon whose projections you accept, it is estimated that people hereafter are going to change jobs from seven to twelve times during their lifetimes.

B. Assessment Devices For Career Education

A. Aptitude Tests

When persons possess traits and abilities that enable them, for example, to perform arithmetic operations quickly, to speak a foreign language fluently, or to manipulate tools well, they have an aptitude for that particular activity. Many aptitudes that an individual pupil possesses sometimes are not readily apparent nor observable and will not be evidenced unless the environment is favorable to their growth and opportunities are provided. In many cases, training is necessary before an aptitude can be identified.

Aptitude tests can predict future chances for potential success in a given field. One should consider all tests concerned with prognosis. Additional input from observations, interviews, and other informal measures must be obtained to validate interpretations yielded from specific test scores. The following measures have been demonstrated to be useful in assessing the aptitudes of adolescents.

General Aptitude Test Battery:

The General Aptitude Test Battery was designed by the U.S. Department of Labor in 1970 to determine career aptitudes of students of high school age or older. It is composed of 12 tests measuring nine basic aptitudes, as follows:

1. Intelligence-General Learning Ability - the ability to understand instructions and underlying principles to reason, and to make judgments.

2. Verbal Aptitude - the ability to understand meanings of words and ideas associated with them, to comprehend language and relationships among words, to understand meanings of whole sentences and paragraphs, and to present ideas clearly.

3. Numerical Aptitude - the ability to perform mathematical operations accurately and quickly.

4. Spatial Aptitude - the ability to comprehend forms in space and relationships between solid and plane objects (frequently described as the ability to visualize objects or two or three dimensions).

5. Form Perception - the ability to determine pertinent details in objects or in pictorial or graphic material, to make visual comparisons and discriminations, and to see minimal differences in shapes and shadings of figures and widths and lengths of lines.

6. Clerical Perception - the ability to derive pertinent detail in verbal or tabular material, to observe differences in copy, to proofread words and numbers, and to avoid errors in mathematical calculations.

7. Motor Coordination - the ability to coordinate eyes and and hands/fingers quickly and accurately in making precise movements, to make a movement accurately and swiftly.

8. Finger Dexterity - the ability to move the fingers and manipulate small objects quickly and accurately.

9. Manual Dexterity - the ability to move the hands with ease and skill, to work with the hands in placing and turning motions.

Administration of the GATB requires approximately 2½ hours and can be administered in groups. Two forms are provided: one with an expendable booklet and the other with separate answer sheets. The GATB has high reliability and validity data.

Nonreading Aptitude Test Battery:

The Nonreading Aptitude Test Battery (NATB) (U.S. Department of Labor) is a nonreading adaptation of the GATB intended to be used with semiliterate and disadvantaged groups. It measures the same aptitudes as the GATB through 10 subtests:

1. Picture-Word Matching
2. Oral Vocabulary
3. Coin Matching
4. Design Completion
5. Tool Matching
6. Three-dimensional Space
7. Form Matching
8. Coin Series
9. Name Comparison
10. Mark Making, Placing, Turning, Assembling, and Disassembling

The NATB is a pencil-and-paper test presented in eight separate booklets. There are no separate answer sheets, and the students mark their answers in the booklets. Administration time is about 3½ hours, and a maximum of six students can be tested at any one time. A machine-scoring service is available for scoring the test booklets, converting raw scores to aptitude scores, and matching aptitude scores with Occupational Aptitude Patterns.

Differential Aptitude Test:

The Differential Aptitude Test (DAT) is used with students in Grades 8-12. The DAT is composed of seven subtests that yield separate scores, and include:

1. Verbal Reasoning - an analogies test designed to assess the ability to understand verbal relations.
2. Numerical Ability - a mathematics test covering a wide range of operations.
3. Abstract Reasoning - assesses the ability to solve problems expressed in diagrams and figures; little language skill required.
4. Space Relations - evaluates the ability to describe a three-dimensional object from a two-dimensional pattern.
5. Clerical Speed and Accuracy - measures the speed with which an individual can perform a variety of clerical tasks.
6. Mechanical Reasoning - assesses the ability to solve problems of simple to moderate difficulty involving mechanical calculations.
7. Language Usage - two tests (scored separately) test the ability to use mechanical aspects of written expression (e.g., spelling, punctuation, capitalization, etc.).

Percentile norms are supplied for Grades 8-12, for the total score, and for individual subtests. Reliability coefficients are reported for each test, sex, and grade. Validity data have been established effectively with correlations reported between the DAT and school grades, other aptitude tests, and occupational success. At least 3 hours are required for administration of the test, and it may be given in groups.

Flanagan Aptitude Classification Tests:

The primary purpose of Flanagan Aptitude Classification Tests (FACT) (Flanagan, 1960) is to generate accurate occupational predictions by testing a diversity of separate aptitudes. The constructs evaluated include (1) inspection, (2) coding, (3) memory, (4) precision, (5) assembly, (6) scales, (7) coordination, (8) judgment and comprehension, (9) arithmetic, (10) patterns, (11) components, (12) tables, (13) mechanics, (14) expression, (15) reasoning, (16) ingenuity, (17) vocabulary, and (18) planning. Administration time is 4½ hours divided into two sessions. Individual subtests range from 3 to 35 minutes. Flanagan cautions that subtests do not meet acceptable reliability criteria, but rather are intended for use in combination and, when used that way, are high enough for specific predictions. It is recommended that this test is best used with individuals rather than with groups.

B. Interest and Attitude Tests

Interest and attitude tests consist of questions regarding a student's interests, values, preferences, and feelings over a wide range of occupational activities. Time requirements are not as lengthy as with aptitude tests and do not demand the same commitment and expense for scoring. Results of these tests can give teachers an idea of a student's career aspirations.

Strong-Campbell Interest Inventory:

The purpose of the Strong-Campbell Interest Inventory (SCII) is to provide (1) students with information about themselves that will assist them in making sound career plans, (2) teachers and other professionals who make decisions about others with information, (3) data appropriate for studying groups of persons. In total, 325 items are included, most of which are presented in a "Like-Indifferent-Dislike" form and are listed in seven sections. The specific sections include: Occupations, School Subjects, Activities, Amusements, Types of People, Preference between Two Activities, and Your Characteristics. Three types of scores can be obtained from the SCII: 6 General Occupational Themes, 23 Basic Interest Scales, and 124 Occupational Scales.

Most students require less than 30 minutes to complete the inventory. Scoring is difficult, and a scoring service is usually used. It is possible to derive profiles that relate to General Occupational Themes, Basic Interests, and Occupational Scales. Reliability and validity statistics generally are acceptable for school use.

Kuder Occupational Interest Survey:

The Kuder Occupational Interest Survey (KOIS) is designed to evaluate individual preferences, likes, and dislikes for activities and occupations and to compare them with those of other persons in a diversity of careers. The 100 items used in this survey are arranged in triads made up of three activities. In each triad the individual chooses the most preferred and least preferred activity. A scoring sheet is employed that must be machine scored. A total of 30 minutes is needed to complete the survey.

Although reliability statistics appear to be adequate, no evidence of predictive validity is available.

Reading-Free Vocational Interest Inventory:

The Reading-Free Vocational Interest Inventory (R-FVII) is a nonreading vocational preference test for semiliterate and mentally retarded persons. Illustrations for drawings that relate to certain careers are used in forced-choice format. Presenting pictured activities of individuals engaged in their job tasks eliminates the reading barrier for those with limited verbal or reading ability. The R-FVII provides scores in 11 male and 8 female interest areas. The male areas are: automotive, building trades, clerical, animal care, food service, patient care, horticulture, janitorial, personal service, laundry service, and materials handling. The female areas include: laundry service, light industrial, clerical, personal service, food service, patient care, horticulture, and housekeeping.

Approximately 45 minutes are required for complete administration of the R-FVII. Normative tables permit percentiles to be compared among students and with nationwide results. Reliability and validity coefficients are provided in the inventory manual.

Minnesota Vocational Interest Inventory:

The Minnesota Vocational Interest Inventory (MVII) (Clark & Campbell, 1966) is designed specifically to assess the interests of males 15 years of age and older in nonprofessional areas. There are 158 forced-choice triads in the Occupational Activity Scales. As in other tests employing triads, students are forced to choose most and least preferred items. Twenty-nine Occupational Scales, such as carpenter, printer, farmer, etc., are available. Nine area scales are given: Mechanical, Health Service, Sales Office, Office Work, Electronics, Food Service, Carpenter, Clean Hands, and Outdoors. Hand scoring is possible, although it is recommended that machines be used. From 45-90 minutes are needed for administering the MVII. Presently, the MVII is the most useful inventory for assessing nonprofessional interests of male adolescents (Wallace and Larsen, 1978).

From: Jack L. McPherson, "Career Education for the Handicapped: A Resource Guide," Northwest Regional Resource Center, University of Oregon and Washington State Office of Superintendent of Public Instruction, Olympia, 1976.

C. Specific Teacher Competencies In Career/Vocational Education

I. General Knowledge

A. Knoweldge of Individual Characteristics

The teacher:

1. is aware that each individual has unique patterns of abilities and limitations which affect career/vocational decisions.

2. is aware that each individual has unique attitudes, interests and values which affect career/vocational decisions.

B. Knowledge of Career and Occupation Opportunities

1. has comprehensive knowledge of a wide variety of occupational families.

2. knows the abilities required in specific vocations or occupational families.

3. knows the baseline interpersonal and functional skills which are required for vocational success.

4. has a reasonable understanding of the technological, economic and social forces which influence current and future employment opportunities.

5. can relate knowledge of specific vocation requirements to each individual's abilities, interests, and values.

6. is familiar with resources which provide current information about career opportunity.

7. is familiar with resources which provide students with direct experience in various vocations.

8. is familiar with the content covered on the General Education Development Test.

II. Assessment

1. can administer and interpret standardized vocational/ career interest and aptitude tests.

2. can make informal assessments of vocational/career interests through observation and interview skills.

3. can coordinate information obtained through a comprehensive assessment of intellectual, scholastic, physical and social abilities with interests and attitude surveys to develop realistic vocational options for each child.

III. Instruction

1. will provide information pertaining to a variety of career opportunities.

2. will provide opportunities for students to make onsite observations of various occupations.

3. will relate career/vocational instruction to child's physical, mental, social and scholastic level of development.

4. will encourage group exploration and discussion of various career/vocational opportunities.

5. will counsel individuals to help them make realistic vocational decisions based on their abilities and interests.

6. will help students understand and develop the specific skills necessary for career entry, e.g., typing, filing.

7. will teach practical job securing skills when necessary., e.g., interview behavior, completion of job application forms.

8. will teach self-help skills which affect employment opportunities, e.g., grooming, appropriate dress, use of handkerchief instead of sleeve.

9. will teach daily living skills which affect career decisions, e.g., budgeting of money, best use of time, importance of rest and nutrition.

10. will teach family management skills, e.g., family planning and child rearing, food selection and preparation, purchasing decisions.

11. will provide opportunities to practice cooperative interaction with others in simulated or real work situations.

12. will provide opportunities for the development of effective leadership skills.

13. will relate successful employment to acceptance of responsibility for own behavior.

14. will relate successful employment to feelings of personal satisfaction about accomplishments.

15. will help students develop the skills needed to pass the General Educational Development Test.

From: "Code of Ethics and Competencies For Teachers of Learning Disabled Children and Youth," Division for Children with Learning Disabilities, 1978, pages 24-26, Reprinted with permission.

D. Career Education Materials

The books, periodicals, guides, workbooks, career kits and other publications cited in the annotated bibliography are intended to alert educators to: (1) a variety of career education-oriented resources; and (2) career information aids appropriate for helping students with their career development and exploration. Although the bibliography contains only a small fraction of available career education/career information resources, these may serve as a starting point for persons interested in implementing career programs in their schools.

1. Books: Career Development/Information/Exploration

Activities for Succeeding in the World of Work
Grady Kimbrell and Ben S. Vineyard

Work-book type publication containing numerous activities designed to enable the student to analyze himself and make plans for the future.

Source: McKnight & McKnight Publishing Co.
U.S. Route 66 at Towanda Avenue
Bloomington, Illinois 61701

Applying For a Job
Patricia M. Rath, Ralph E. Mason and Lloyd J. Phipps

This guide contains cards with questions on the front and answers on the back concerning applying for a job. Students may play a game by seeing how many questions they can correctly answer.

Source: The Interstate Printers & Publishers, Inc.
Jackson at Van Buren
Danville, Illinois 61832

Career Exploration: A Guide for Teachers 1970

A publication especially designed for use in a career exploration course offered in grade eight, nine, and ten of Oklahoma schools. The guide is not a textbook, but provides many creative ideas which may be used by the teacher in providing students with experiences which will help them to meet the challenges of the future. Units in the guide are entitled: Know Yourself, World of Work, Use of Occupational information, and Career Educational Planning. This inexpensive publication provides many suggestions which should be very helpful in providing students with experiences relating to career exploration.

Source: State Department of Vocational and Technical Education
The Curriculum and Instructional Materials Center
1515 West Sixth Avenue
Stillwater, Oklahoma 74074

Career Information in Counseling and Teaching 1971
Lee E. Issacson

Contained in this publication are sections on classifying occupations, preparation for work, occupational materials, and the use of occupational information.

Source: Allyn and Bacon, Inc.
470 Atlantic Avenue
Boston, Massachusetts 02110

Catalogue of (Career) Guidance Materials
Careers, Inc.
P. O. Box 135
Largo, Florida 33540

A monthly catalogue of career guidance materials, including career kits, career cluster files, career briefs, job guides, career information subscriptions, etc., K-12.

Concise Handbook of Occupations 1971
Joan M. Costello and Rita Parsont Wolfson

Includes one page briefs for 305 occupations which are listed in alphabetical order. Each brief includes one photograph and a short description of the occupation. The briefs give only a general idea about specific occupations, and other sources must be consulted for more detailed information.

Source: J. G. Ferguson Publishing Company
6 North Michigan Avenue
Chicago, Illinois 60602

Dictionary Occupational Titles, Volume I

Volume I contains 35,500 job titles and descriptions of occupations which are listed alphabetically. DOT numbers are assigned to each title.

Source: Superintendent of Documents
U.S. Government Printing Officd
Washington, D.C. 20402

Dictionary of Occupational Titles, Volume II

Volume II contains the same job titles listed in DOT number sequence and a section in which job titles are arranged according to industry. Information relating to the last three digits of the DOT number concerning worker traits and requirements for different jobs is also given. Although the DOT may be too complicated for easy use by some students, it is a must for every classroom.

Source: Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

Drier, Harry N. (Editor)
Career Development Resources: A Guide to Audiovisual and Printed Materials for Grade K-12
Worthington, Ohio: Charles A. Jones Publishing Co., 1973, 301 pages.
Available from Educational Properties Incorporated,
P. O. Box DX
Irvine, California 92664

Over 2,000 films, filmstrips, records, tapes, kits, games, books, and other printed materials are described and grouped by grade level and career education concepts. The audiovisual and printed materials were selected by counselors and teachers to meet learning objectives in three areas of career education: self-understanding, the world of work, and career planning and preparation.

Drier, Harry N., Jr., The Ohio State University, and Associates
K-12 Guide for Integrating Career Development Into Local Curriculum
Available from:
Educational Properties Incorporated
P. O. Box DX
Irvine, California 92664

This guide for the integration of Career Development into local curriculum has been developed for teachers, counselors, and administrators. It has been widely tested and used for the purpose of setting up career development programs in elementary, junior, and senior high schools. The publication contains Career Development resources, bibliography, and glossary.

Educators Guide to Free Guidance Materials
Mary H. Saterstrom and Joe A. Steph

This publication, which is revised each year, classifies and provides ordering information for nearly 1,000 free materials, including films, filmstrips and slides, tapes, and printed material. Occupational orientation teachers should find this book very helpful.

Source: Educators Progress Service
Box 497
Randolph, Wisconsin 53956

Encylopedia of Careers and Vocational Guidance 1971
Volume I and Volume II
William E. Hopke

Both volumes, which consist of over 1500 pages, give a great deal of information for the money. Volume I contains 5 articles which give ideas for guidance of students and 71 articles concerning opportunities in major industries, such as medicine, advertising, and mining. Volume II contains 220 articles covering over 650 specific occupations. Each article contains much of the same information presented in occupational briefs. A primary disadvantage of bound volumes is the fact that they may be used by only one person at a time.

Source: J. G. Ferguson Publishing Co.
6 North Michigan Avenue
Chicago, Illinois 60602

Finding Your Orbit 1971
E. G. Haldeman, et al.

A booklet designed to help students analyze their interests and abilities and make more realistic career choices. Numerous student activities which may be implemented in an occupational orientation class are given.

Source: Chronicle Guidance Publications, Inc.
Moravia, New York 13118

Handbook of Job Facts 1968
Norma Thiemann

A book containing summaries of pertinent data for 300 major occupations. Concise information is given for each of these occupations concerning: major duties of the occupation; main industries and areas in which the occupation is found; number of workers in the occupations; education and training necessary; special qualifications, including abilities, aptitudes, interests and character traits; how to enter the occupation; chances of advancement; earnings; and expected opportunities. Information about occupations, which is presented alphabetically in chart form, is easy to use. This publication, which is designed for grades nine through twelve, may also be used by students in junior high.

Source: Science Research Associates
259 East Erie Street
Chicago, Illinois 60611

How to Choose Your Work 1969
Elna Stone

This publication is divided into three sections: What Do You Want to Do? What Can You Do? and Kinds of Work Available to You. Numerous rating scales and questionnaires designed to assist the student in self-exploration and consideration of available jobs are included.

Source: Bruce Publishing Company
2642 University Avenue
St. Paul, Minnesota 55114

How To Get The Right Job And Keep It 1970
Frank S. Endicott

A book designed especially for students who do not plan to attend college. Information is given on job prospects after high school, on how to prepare for and obtain various jobs. Chapters on what to expect and how to succeed in a job are included. This publication contains a great number of suggested activities and situational questions which the teacher may use in class.

Source: Management Information Center
Box 357
Miami, Florida 33145

Job Guide For Young Workers

A publication containing 82 Occupational Briefs and information on 150 jobs. Sections on usual duties, characteristics of the job, qualifications, employment prospects, advancement opportunities, and finding the job are included for each brief. Additional sources of free and inexpensive occupational information which may be helpful to both students and teachers are explained at the end of the publication.

Source: Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

Lovejoy's Career and Vocational School Guide
C. E. Lovejoy

Pertinent information is given about vocational schools throughout the country.

Source: Simon & Schuster, Inc.
630 Fifth Avenue
New York, New York 10020

Lovejoy's College Guide
C. E. Lovejoy

This book provides information about colleges and universities throughout the country. It gives a description of each institution listed, degrees granted, and accreditation granted by regional and professional association.

Source: Simon & Schuster, Inc.
630 Fifth Avenue
New York, New York 10020

Lovejoy's Scholarship Guide
C. E. Lovejoy

This publication lists various scholarships which are available and gives information on how to secure scholarships.

Source: Simon & Schuster, Inc.
630 Fifth Avenue
New York, New York 10020

Occupational Essentials 1970
David J. Richter

Although this publication is designed to be used as a student workbook, the teacher may also utilize a single copy to obtain many helpful suggestions for classroom use. Materials concerning self-evaluation are included. However, most emphasis is placed on securing a job and succeeding on the job. An instructor's guide is also available for $7.50.

Source: H. C. Johnson Press, Inc.
P. O. Box 4156
Rockford, Illinois 61110

Occupational Information: Where To Get It and How To Use It 1967
Robert Hoppock

A valuable tool for teachers of occupational orientation. Information concerning the sources of occupational literature, and classification and filing systems is included. The author has a special chapter on the teaching of occupations and explains in detail, activities which might be carried out in occupational orientation classes, such as alumni follow-ups, group conferences, student surveys, case conferences, laboratory studies, and many others.

Source: McGraw-Hill Co.
330 W. 42nd Street
New York, New York 10036

Occupations and Careers 1969

Norman Feingold and Sol Siverdloff

A publication designed for courses in occupational orientation and for use as a reference for counselors and students. The first part of the book takes a general approach to the world of work and career planning, while the second half discusses specific occupations by DOT classification.

Source: McGraw-Hill Book Company
330 West 42nd Street
New York, New York 10036

Occupational Literature: An Annotated Bibliography 1971

Gertrude Forrester

This publication provides a comprehensive coverage of occupational literature. Complete ordering information is given for publications relating to alphabetically listed occupations.

Source: The H.W. Wilson Company
950 University Avenue
Bronx, New York 10452

Occupational Outlook Handbook

More than 700 occupations representing a large percentage of the work force are included. A photograph and information concerning the nature of the work; places of employment; train, other qualifications, and advancement; employment outlook; earnings and working conditions; and sources of additional information are included for each occupation. Another section treats occupations within various industries, such as the restaurant or banking industries. The handbook is written in a simple, easy to understand manner which should appeal to most students.

Source: Superintendent of Documents
U. S. Government Printing Office
Washington, D. C. 20402

Occupational Outlook Quarterly
U. S. Government Printing Office
Washington, D. C. 20402

This quarterly journal, prepared by the U. S. Department of Labor, provides well-written, illustrated articles with titles such as: "Logging -- A Job for the Hardy," "Physician's Assistant - Medical Occupation in the Making," "Business Machine and Computer Manufacturing - Career Opportunities Are Excellent," "The Trucking Industry - Highway to a Career."

Succeeding In The World Of Work 1970
Grady Kimbrell and Ben S. Vineyard

This complete textbook is written by men who have had experience in the world of business and education. The authors have tried to bring together in one book the essentials every workers needs to understand in order to be successful on his job.

Source: McKnight & McKnight Publishing Co.
U.S. Route 66 at Towanda Avenue
Bloomington, Illinois 61701

Succeeding On The Job
Patricia M. Rath, Ralph E. Mason and Lloyd J. Phipps

This self-study guide for students consists of a set of 4" x 6" cards with questions on the front and answers on the back. The student may learn about the importance of developing successful work habits.

Source: The Interstate Printers and Publishers, Inc.
Jackson at Van Buren
Danville, Illinois 61832

Wernick, Walter, Northern Illinois University
Teaching For Career Development In The Elementary School
Available from:
Educational Properties Incorporated
P. O. Box DX
Irvine, California 92664

A practical guide to planning career awareness activities in the early grades. The author explains how career education courses are developed in the elementary schools, demonstrates with specific examples, how world-of-work materials can be presented to the young, and suggests ways to involve community talent.

Teachers' Guide To Group Vocational Guidance 1971
Bruce Shertzer

A publication containing suggestions for group activities relating to the World of Work, Knowing Yourself, and Securing a Job and Progressing in It. Each of the 41 lessons includes sections on lesson aims, motivational tips, procedure, summary assignment, and lesson resources. Teachers may selectively use the lessons which seem to be appropriate for their classes.

Source: Bellman Publishing Company
P. O. Box 172
Cambridge, Massachusetts 02138

The Teacher's Role In Career Development 1965
Wesley W. Tennyson, Thomas A. Soldohl, and Charlotte Mueller

A publication which identifies sources of occupational information and which offers practical suggestions on specific ways in which teachers can relate their subjects to various occupations.

Source: National Vocational Guidance Association
1605 New Hampshire Avenue, N.W.
Washington, D. C. 20009

2. Career Information Kits

Compulearn
Grade Range K-12

Contents: An electronic individualized, non-consumable career education program for grade K-12. Compulearn covers the three phases of Career Education as follows:

I. Awareness and exploration of the world-of-work over 250 careers explored; II. Evaluation of Interests, Abilities and Values - individualized self-profiling allows each student to determine his own interests, abilities, and job values and to align these with 116 career data sheets and 500 related careers; III. Decision making - students explore alternative futures after high school using an individualized gaming process to learn how to reach and evaluate career data-expected employment demand is provided for over 200 careers.

Source: Random House, Inc.
400 Hahn Road
Westminster, Maryland 21157

Career Development Laboratory

Contents: Career survey forms are used by students to determine high-interest career and occupational areas. These surveys, in turn, guide the student to selected areas within a battery of 60 taped interviews with successful working people. Self-contained, can be used without supervision.

Source: Educational Progress Corporation
P. O. Box 45663
Tulsa, Oklahoma 74145

Occu-File
Grade Range: Junior/Senior High School

Contents: Selected occupational awareness mini-briefs covering entry-level occupations, vocation/technical training, college degrees required, self assessment, career exploration, occupational decision making, future programming, etc.

Source: Occupational Awareness
P. O. Box 948
Los Alamitos, California 90702

3. Classroom Level Materials:

Plumley, D. and Dunn, J. A.
Teachers' Guide to Career Education: Primary Grade
Palo Alto, CA: American Institutes for Research, 1974, 220 pages ($8.25)

Plumley, D. and Dunn, J. A.
Teachers' Guide to Career Education: Upper Elementary Grades
Palo Alto, CA: American Institutes for Research, 1974, 253 pages ($8.25)

Plumley, D. and Dunn, J.A.
Teachers' Guide to Career Education: Middle School Grades
Palo Alto, CA: American Institutes for Research, 1974, 199 pages ($6.75)

Dunn, J. A. and Steel, L.
Resource Book of Sample Lesson Units for Career Education
Palo Alto, CA: American Institutes for Research, 1974, 323 pages ($9.75)

Egan, J.A., et al.
Resource Book of Low Cost Materials for Career Education
Palo Alto, CA: American Institutes for Research,
1974, 318 pages ($8.25)

Bailey, Larry J., Ronald W. Stadt, and the Department of Occupational Education, Souther
Career Education: New Approaches to Human Development
Available from:
Educational Properties Incorporated
P. O. Box DX
Irvine, California 92664 ($8.95)

The prime objective of this basic career education test is to support the implementation of a systematic career development and education model which facilitates human development. It is written for practitioners in curriculum development.

Hoyt, Kenneth B., et al.
Career Education: What It Is and How To Do It
Salt Lake City, Utah; Olympus Publishing Company,
1972, 190 pages. Also distributed by Educational Properties, Inc.
P. O. Box DX
Irvine, California 92664

Intended to introduce the career education message to lay audiences, this book provides a complete analysis of the Career Education concept, together with discussions of the development of the concept, its potential for contribution to the society and the educational system, and step-by-step guides for the creation and institution of a career education program.

Hoyt, Kenneth B., Rupert N. Evans, and Garth L. Mangum
Career Education in the Middle/Junior High School
Available from Educational Properties, Inc.
P. O. Box DX
Irvine, California 92664

A comprehensive discussion of career education as it relates to students in grades five through nine.

Occupational Cluster. Bethesda, MD: ERIC Document Reproduction Service, ED 103 584, 1975.

4. Books and Kits: Career Education For The Handicapped

An Occupational Awareness Mini-Brief Program
(Special Education Series)

Grade Range: High School

Contents: Five career development packets designed to deal with a wide variety of handicapped students and to help motivate them to find a worthwhile and appropriate occupation. Occupational awareness materials are provided for educationally handicapped, EMR, Orthopedically and aurally handicapped and partially sighted.

Source: Occupational Awareness
P. O. Box 948
Los Alamitos, California 90720

Gysbers, Norman C., et al.
Career Guidance: Practice and Perspectives
Available from Educational Properties, Inc.
P. O. Box DX
Irvine, California 92664

The editors have selected articles, papers, and original materials to show the changing attitudes toward career guidance and the changing role of the guidance counselor in integrating career education concepts into the total school program. Present practices and innovative approaches are described by practicing counselors in city and rural schools and in programs for the handicapped and disadvantage child.

Occupational Notebook Program (Special Education)

Grade Range: Junior/Senior High School

Contents: This is a full course dealing with the basics of the world of work, especially designed for handicapped/special needs students. It is designed to teach students to anticipate and prepare for situations they will encounter on the job. The student becomes aware of the need for skills in such areas as deciding on a line of work, filling out applications, interviewing for the job, keeping a job, handling communications, finances and travel, and being a pleasant and productive worker.

Source: Research Press
P. O. Box 31771
Champaign, Illinois 61820

Personal Reading Modules, Relevant Production, Inc.
319 Gulf Blvd., P. O. Box 68
Indian Rocks, Florida 33535

Personal Reading Modules (PRM) provide students with easy, highly rewarding materials that help them better understand and cope with our society. Designed to build positive self-concepts, survival skills, and high interest, controlled vocabulary reading, PRM modules can be used for: Special Education, Career Education, Consumer Education, Adult Basic Education, Home Economics, Distributive Education, etc.

The Job Box

Grade Range: Junior/Senior High School

Contents: Grouped into 7 separate job clusters, each of the 70 booklets in the module describes a different occupation and is illustrated with photographs showing individuals engaged in typical work activities. The easy-to-read two-color booklets give accurate, up-to-date information about working conditions, salary ranges, possibilities for advancement, etc. The jobs, which range from file clerk to fry cook to cattle ranch hand, have been carefully chosen. Each is one that special need students have demonstrated they can and are able to function successfully in.

Source: Fearon Publishers, Inc.
6 Davis Drive
Belmont, California 94002

Urban, Stanley J. and Thomas Tsuji
The Special Needs Student in Vocational Education: Selected Readings. New York: MSS Information Corporation, 1974.

This volume focuses on ideas and issues related to the general problem of delivering special educational services; the role of law in assuring that the special needs child receives vocational training; handicapped and disadvantaged children in vocational education classes; career education and the child with special needs; the importance of proper personnel in implementing programs; and the importance of understanding sources of assistance.

Work Survival Skills: A Career Education Program for With Special Needs. (FI Career Futures, Inc. 2100
Locust St., Philadelphia, PA 19103
Phone (Toll Free): (800) 523-4550

A development program designed to help prepare students with Special Needs to realize their full potential for economic and social independence through successful employment. The program which covers 50 careers from 9 different occupational clusters, can be used in self-contained classes, resource rooms, regular classes, and institutional situations. The program consists of two separate sets: Set I, for ages 9-14; Set II, ages 15 and over. Other areas covered include language arts, math, perceptual motor development, and life-skills development.

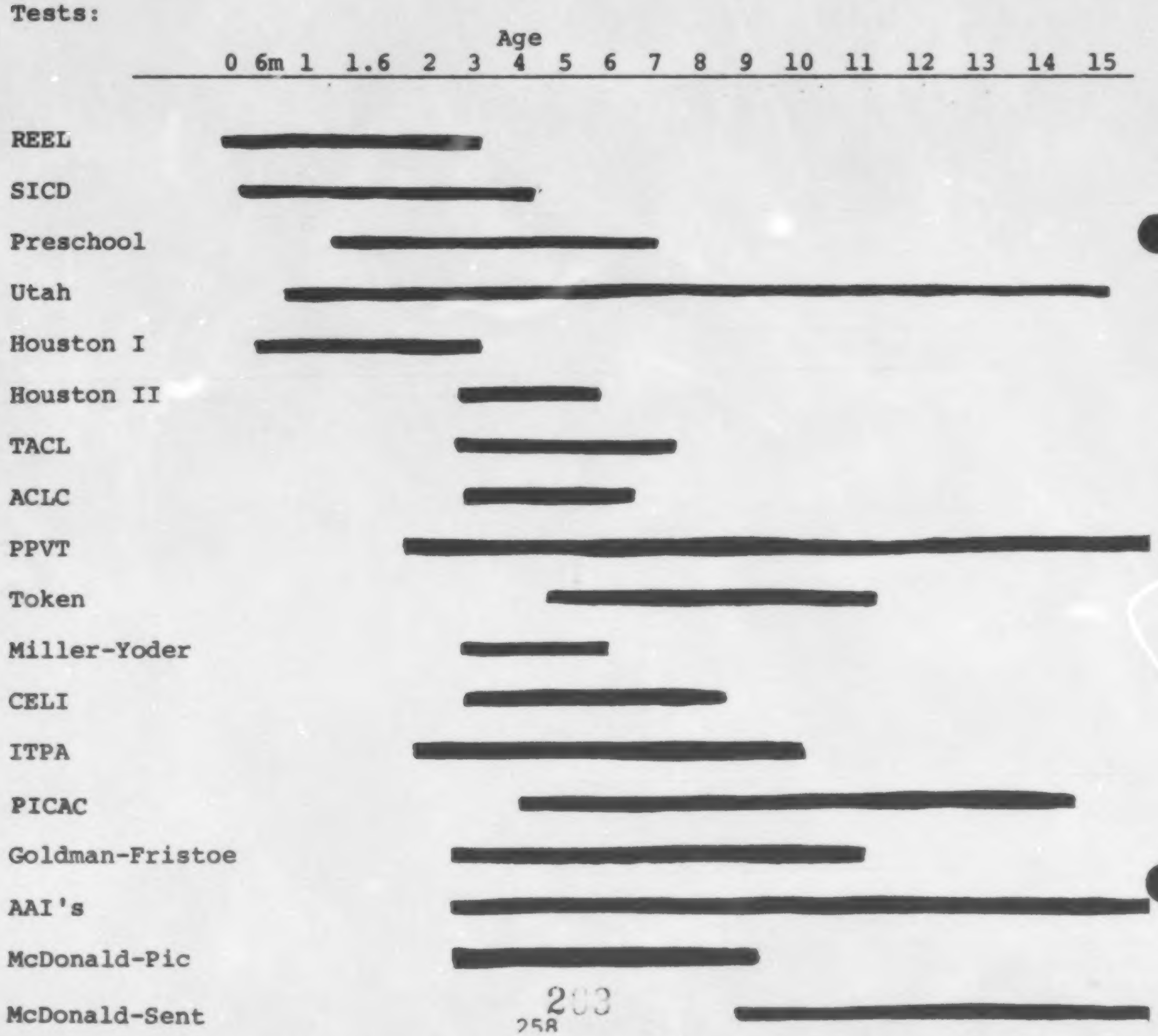
VII. Spoken Language

A. LANGUAGE: A DEFINITION

The term "language" is generally used to describe the general knowledge a person possesses of the linguistic concepts upon which speech is based. Speech has been defined as the observable use of language in specific, concrete situations. The use of language as performance based speech, oral reading, and writing, is the major means by which language concepts are described by professionals. It is obvious that for a child to develop language skills to a proficient degree, the child must be physiologically mature and receive appropriate stimulation and reinforcement from the immediate environmental surroundings. If there is a basic rule regarding the acquisition of language it is that reception always precedes output. It is upon this rule that a child's abilities in spoken language is assessed.

B. Appropriate Ages for Speech and Language Tests

It is important for the diagnostician to consider the chronological age and estimated level of functioning of the individual to be evaluated in choosing appropriate assessment tools. Below is a summary of the age ranges specified in the test manuals. These ranges should be used as a guide rather than a rule in choosing a test battery for a diagnostic session. These age ranges are based on chronological age but can easily be interpreted for use with individuals whose chronological ages exceed the upper limits but whose mental ages fall within the limits. When comparing scores to age norms, it is important to comment whether or not the child's CA fell within the age norms for the test and if not what age range his scores were compared to.



C. Speech and Language Tests

Test: Goldman-Fristoe Test of Articulation

Authors: Ronald Goldman, MacLyne Fristoe

Publisher: American Guidance Service, Inc.

Purpose: The purpose of the Goldman-Fristoe is to assess an individual's articulation of 35 consonant sounds and blends in initial, medial and final position using three subtests: 1) Sounds-in-Words Subtest, 2) Sounds-in-Sentences Subtest, and 3) Stimulability Subtest.

Age: The test materials are designed to have high interest value for young children. Norms are available for children aged 6 to 11 years. Test-Retest reliability was determined using children from 4-8 years.

Administration time: Varies according to the number of subtests administered.

Materials:
- -Score Sheet
- -Easel Kit (containing 35 pictures of Sounds-in-Words subtest, 9 pictures for the Sounds-in-Sentences subtest and Stimulability Subtest material which are found on 2 cards following the Sounds-in-Sentences subtest). The pictures used are colored drawings.
- -Test Manual

Administration: All three or any combination of the subtests can be administered.

Sounds-in-Words Subtest: The Easel Kit is set up to that the first plate facing the subject is blank. The instructions for the subtest, questions to ask the subject and desired response, are located on the examiner's side of the Easel Kit. The picture to be named is located on the subject's side of the easel. For each picture, the examiner asks the subject a question appropriate to elicit the correct response from the subject such as "what is this?"

Sounds-in-Sentences Subtest: For this subtest the examiner reads the subject a story while showing him pictures. After all the pictures have been shown, the examiner goes back to the first plate and has the subject repeat the story back to him. Instructions, the story and key words to be emphasized appear on the examiner's side of the Easel Kit.

Stimulability Subtest: This subtest is used to determine which of the sounds misarticulated on the Sounds-in-Words subtest can be produced correctly with stimulation. Three levels of performance can be assessed (syllable, word, sentence). Testing of each error sound begins at the syllable level and progresses to the sentence level according to the subject's ability to produce the phoneme correctly. Complete instructions and a model of possible sequences of procedures used in stimulability testing are found on pages 10-11 of the test manual.

Scoring: Two levels of scoring can be used. The first level involves judging each sound production only for the presence of an error. The following symbols are used:

-A blank cell or a check in a cell indicates no error
-X-mark is used to represent any error in production
-A diagonal mark (/) is used when the word or syllable was not elicited

Level Two scoring is used when each sound production is judged for the type of speech error. The following symbols are used.

-A substitution error is recorded by writing the phonetic symbol for the sound that was used
-An omission is recorded by using a dash (-)
-A distortion can be recorded using an (X) or a (2) for a mild distortion, and a (3) for a severe distortion.

Specific scoring instructions are found on pages 12-14 of the test manual. Errors for each subtest are recorded in the Response Matrix on the Score Sheet. For ease of transcription during administration of the test, the child's errors may be recorded about the stimulus words on the left hand side of the Scoring Sheet and later transferred to the matrix.

Reliability and Validity: Reports of reliability and validity studies on the Goldman-Fristoe can be found on pages 15-21 of the test manual.

Test: Arizona Articulation Proficiency Scale-Revised (AAPS)

Author: Janet Barker Fudala

Publisher: Western Psychological Services

Purpose: The purpose of the AAPS is to assess an individual's articulation of 27 consonants and blends and 20 vowels in initial and final position. Using the data from a study done at Bell Laboratories by French, Carter and Koenig on the frequency of occurrence of American Speech Sounds, each sound in the AAPS has a value determined by the number of times it is likely to occur in 100 consecutive speech sounds. Speech intelligibility is determined through interpretation of the AAPS score.

Age: Average AAPS scores have been established for children ages 3-11 years. The Sentence Test is designed for older children and adults and requires a reading level of third grade. No age limits are specified for the Picture Test Cards. These tests are not given together unless, in the case of the older child and adult, a comparison of the results on the two tests is desired.

Administration and Scoring time: 10 to 15 minutes.

Materials:
- -Test Manual
- -Picture Test Cards (black and white line drawings)
- -Sentence Test
- -Protocol Booklet
- -Survey Form

Administration: Picture Test: The examiner shows 48 picture cards to the subject and asks him to name them. Errors are recorded on the protocol sheet.

Sentence Test: Subject is asked to read 25 sentences out loud. The examiner records the errors on the protocol sheet.

Scoring: Errors are recorded on the protocol sheet. Substituted sounds are recorded using the phonetic symbol, omissions by using a (-), and distortions by using an (X) in the appropriate error column. Corresponding values for the errors are circled and totaled to determine the Total Consonant and Total Vowel scores. These scores are added together to obtain a total sound score which is subtracted from 100 to determine the AAPS score. The AAPS score is interpreted according to the chart found on the last page of the protocol sheet.

Reliability and Validity: Information on reliability and validity studies can be found on page 2 of the test manual.

Test: A Deep Test of Articulation, Picture Form and Sentence Form

Author: Eugene T. McDonald

Publisher: Stanwix House

Purpose: The purpose of the McDonald Deep Test is to provide the clinician with additional information about the client's misarticulated sounds by deep testing. A complete explanation of the concept of deep testing can be found in Articulation Testing and Treatment: A Sensory-Motor Approach.

Age: The Picture Form should be used with individuals whose reading level is below the third grade. The Sentence Form requires a third grade reading level ability.

Administration time: The time varies according to the number of sounds which are deep tested.

Materials:
- -Picture Form of the Deep Test of Articulation (color drawings)
- -Sentence Form of the Deep Test of Articulation
- -Score sheets

Administration: Picture Form: Complete instructions are found on pages 4-11 of the Picture Form Book. This test involves having the child make a two syllable word from two pictures, one of which begins or ends with the phoneme to be tested.

Sentence Form: Complete instructions are found on pages 4 and 5 of the Sentence Form Book. This test requires that the individual read a list of sentences which correspond to the phoneme selected for deep testing. If the client has difficulty reading the sentences fluently, the Picture Form should be used.

Scoring: Scoring instructions appear on the Record sheet. Percentage of correct articulations are computed by dividing the number of correct responses by the number of phonemes tested. This quotient is multiplied by 100.

Reliability and Validity: Information about the reliability and validity of the Deep Test of Articulation can be found in Chapter 4 of Articulation Testing and Treatment: A Sensory-Motor Approach.

The Templin - Darley Tests of Articulation

Ages: Pictured Stimuli 3 - 8 years
Sentence Stimuli 8 - 15 years

Authors: Mildred Templin
Frederick Darley

Purpose: Diagnostic Test - 141 items
Screening - 51 items
Iowa Pressure Test (for use with examination batteries for velopharyngeal incompetency and palatal/lip anomalies) - 43 items

Ordering Address:

Bureau of Educational Research and Science
Division of Extension and University Services
The University of Iowa
Iowa City, Iowa

Test: Receptive-Expressive Emergent Language Scale (REEL)

Authors: Kenneth Bzoch, Richard League

Publisher: Tree of Life Press

Purpose: The REEL provides a scale of age norms for describing emergent receptive and expressive language skills.

Age: The language scale contains items ranging from 0 to 36 months.

Administration time: varies according to the abilities of the child and skill of the examiner and informant.

Materials:
- -Test booklet containing developmental items
- -Test manual

Administration and Scoring: The REEL is administered using parent interview techniques and observations of the child.

Age intervals on the REEL are as follows:

0-1 year: 1 month intervals
1-2 years: 2 month intervals
2-3 years: 3 month intervals

There are six items at each interval - three expressive and three receptive. A +, -, ± scoring system is used. Administer the receptive scale first beginning at the child's CA. A basal score is established by receiving 2 +'s at an age level. If the child does not pass two items at his CA, go back until he receives 2 pluses at an age level.

A ceiling is established at the interval where the child receives 2 minuses. The Receptive Language is the highest age level that the child receives two pluses. To assess emerging skills, test two age levels above the language age level.

Begin administering the Expressive Scale at the child's Receptive Language Age. Scoring procedures are the same.

Language Ages and Quotients can be computed. For complete instructions refer to the REEL test manual.

Test: Sequenced Inventory of Communication Development (SICD)

Authors: Dona Lea Hedrick, Elizabeth Prather, Annette Tobin

Publisher: University of Washington Press

Purpose: The purpose of the SICD is to "sequence in a systematic fashion the receptive and expressive communication development for children aged 4 months to 4 years." A model of communication was developed to provide a means for looking at early communicative behaviors. The model consists of an expressive scale of behaviors (Imitating, Initiating and Responding) and a receptive scale of behaviors (Awareness, discrimination and Understanding).

Age: Designed for use with children aged 4 months to 4 years.

Administration time: Varies.

Materials: The materials needed for each test item are found with the description of the items in the test manual.

- Examiner's manual
- Expressive Scale Record Book
- Receptive Scale Record Book
- 200 toys contained in kit to be used with the test

Administration: The Receptive scale is administered first, followed by administration of the Expressive Scale. Testing begins at different levels depending upon the child's CA or estimated level of functioning. Suggested starting points are found on page 28 of the examiner's manual. A basal is established when 3 consecutive complete test items have been passed. The ceiling is reached when 3 consecutive complete test items have been failed. Specific administration and scoring procedures for each test item (both scales) are found on pages 31-64 of the examiner's manual. The test items are summarized in the records books and space is provided for recording the child's responses.

Scoring: If the child successully completes the test item, the word "yes" in the record form is circled by the item number. If the child fails the test items, the examiner circles "no" in the record form. On pages 10 and 11 of the record form is a profile of communicative abilities. Each numbered item on the test has a corresponding number on the profile. The examiner is to circle the number if the child passes the item and underlines it if his response was incorrect. Receptive Communication Age and Expressive

Communication Age can be computed from the profiles. Information about computing Communication Ages is found on pages 60-67 of the examiner's manual. Examples of scored profiles are found on pages 67-90 of the manual.

Reliability and Validity: Information regarding reliability and validity studies can be found on pages 2-24 of the examiner's manual.

Test: Preschool Language Scale (PSLS)

Authors: Irla Lee Zimmerman, Violette G. Steiner, Robert L. Evatt

Publisher: Charles E. Merrill Publishing Co.

Purpose: The purpose of the Preschool Language Scale is to provide a "diagnostic instrument to evaluate developmental progress, maturation lag, strengths and deficiencies in the language skills of young children." The PSLS assesses both the auditory and verbal aspects of language skills. The language scale consists of verbal and auditory language tasks.

Age: 1 year 6 months to 7 years.

Administration time: Varies according to the abilities of the child.

Materials:
- -Preschool Language Scale Manual
- -Preschool Language Scale Picture Book
- -12 1-inch colored blocks
- -1 small piece of coarse sandpaper
- -1 set of coins: Half dollar, quarter, dime, nickel, penny
- -1 watch or clock with a second hand
- -Preschool Language Scale Booklet

Administration: Each scale (Auditory Comprehension and Verbal Ability) is begun by administering the 4 items at the age level slightly below the child's estimated ability. A basal age must be established. This is the level at which a child successfully passes all 4 items at an age level. Testing continues until the child fails all four items at an age level. Items are found in the test manual and scoring booklet.

Scoring: The basal age for each section is entered on the score sheet followed by the number of items passes at each succeeding level. Each item passed between 1.6 and 5 years is multiplied by 1½ months credit. Each item passed at the 6 and 7 year level is multiplied by 3 months credit. The sum of all items passed is added to the basal age for each section.

The Auditory Comprehension Age and Verbal Ability Age are the total months credit received on each scale. A language quotient can be computed by dividing each language age by the child's chronological age and multiplying by 100. An overall language age can be computed by adding the Auditory Comprehension Age to the Verbal Ability Age and dividing by 2. An overall language quotient can be computed by dividing the language age by the child's CA and multiplying by 100.

Reliability and Validity: As the PSLS is an evaluation instrument not a test, no reliability and validity information is available. Each item is based on normative developmental data.

Test: Utah Test of Language Development

Authors: Merlin J. Mecham, J. Lorin Jex, J. Dean Jones

Publisher: Communication Research Associates, Inc.

Purpose: The purpose of the Utah Test is to provide the clinician with an objective instrument for measuring expressive and receptive verbal language skills of normal and handicapped children. The Utah Test utilizes the developmental approach for "appraisal of language readiness."

Age: Language items on the test range from 1 to 15 years (9 age levels).

Administration time: 30-45 minutes. Testing may be conducted in more than one sitting.

Materials:
- -Test Manual
- -Score Sheet
- -Picture plates 1-13
- -Blank paper
- -Pencil or crayon
- -Objects: toy hammer, gun, marble, ball, pencil, cup, small doll
- -Money: penny, nickel, dime, quarter, half-dollar, dollar bill

Administration: Test administration begins on approximately the CA level of the child. Test items and specific instructions are found on pages 10-21 of the test manual. A summary statement of each test item also appears on the score sheet. A basal score of 8 consecutive correct responses must be established. Testing is discontinued after 8 consecutive errors have been recorded.

Scoring: A + or - scoring system is used. Each plus is worth one point, a minus score = 0. The total raw score is computed by adding the total number of pluses above the basal score to the basal score. The raw score is converted into a language age using the table on page 22 of the test manual. A language quotient can be computed by dividing the child's language age by his chronological age.

Reliability and Validity: The reliability and validity of the Utah Test is discussed on pages 4-5 of the test manual.

Test: The Houston Test for Language Development, Part I

Author: Margaret Crabtree

Purpose: The Houston Test, Part I is designed to assess the language age of the infant and young child. The items chosen for the test represent expressive, receptive and conceptual skills.

Age: To be used with children 6 months to 3 years of age (6 age levels)

Administration time: Varies according to abilities of the child. Estimated time is 30 minutes.

Materials:
- -Test Manual
- -Score sheet
- -10 inch dollwith clear features
- -twenty picture vocabulary cards
- -extra toys: car, airplane, etc. for eliciting spontaneous language
- -word dictionary for articulation items

Administration: Specific administration instructions for each test item at each level are given in Chapter 4 of the test manual. Test items are summarized and listed on the scoring sheet.

Scoring: Scoring of the Houston Test is limited to responses observed by the examiner. The correct items are circles on the score sheet and added for each age group. The number of items passed at each age level are entered in the Scoring Summary (page 2 of the scoring sheet). A Basal and Upper Age are established. The language age is the total score which is obtained by multiplying the number of items passed at each age level by the item value for that level and adding the scores from each age level together.

Reliability and Validity: The information that is currently available is found in Chapter 1 of the test manual. The author states that standarization procedures are not complete.

Test: The Houston Test for Language Development, Part II

Author: Margaret Crabtree

Purpose: The purpose of the Houston Test, Part II, is to provide a language scale for age levels 3 to 6 years designed to assist in diagnosing language disorders.

Age: To be used with children 3 to 6 years of age (using 4 age levels).

Administration time: Varies according to the skills of the child. Estimated time is 30 minutes.

Materials:
- Manual of Instructions
- Vocabulary cards
- Miniature objects
- Crayons
- Blank sheet of paper
- Individual Record Form

Administration: Specific instructions for administering each test item are found on pages 13-31 of the test manual. Items are summarized on the record form.

Scoring: Scoring instructions for a test item are found in the test manual following the description and administration procedures for that item (pages 13-31). The work sheets (pages 2 and 3 of the record form) provide space for checking test results as the tasks are presented. The score sheet on page 4 of the record form gives a summary of the test results. Scoring instructions are found on page 11 of the test manual and a sample graded scoring sheet is found in the appendix. The language age is obtained by summing the scores. The upper age and basal age are also established.

Reliability and Validity: The information available on the reliability and validity of the Houston Test can be found in Chapters II and III of the test manual.

Test: Test for Auditory Comprehension of Language (TACL)

Author: Elizabeth Carrow

Publisher: Learning Concepts

Purpose: The TACL is designed to assess a child's receptive vocabulary and his comprehension of morphology and syntax.

Age: The TACL is normed on children ages 3.0 - 6.11 years.

Administration time: Approximately 20 minutes.

Materials:
- Individual Score Sheet
- Red looseleaf book containing test manual information and 101 test plates(line drawings). Stimulus items appear in English and Spanish.

Administration: Details about test administration can be found on pages 9-11 of the test manual. The TACL requires no oral response from the subject. For each plate, the child is asked to point to the picture which best represents the stimulus presented by the examiner.

Scoring: The number of the child's response is recorded on the score sheet. The number of correct responses are added together to determine the total raw score. An Age Equivalency score and percentile rank can be derived from the Raw Score using Table 8 (p. 25) and Tables 10-13 (p. 27-30) of the test manual. Mean scores and the standard deviation for each age group can be found in Table 9 (p. 26) of the manual.

Reliability and Validity: Information concerning the reliability and validity of the TACL can be found on pages 12-21 of the test manual.

Test: Assessment of Children's Language Comprehension (ACLC)

Authors: Rochana Foster, Jane Giddan, Joel Stark

Publisher: Consulting Psychologists Press, Inc.

Purpose: The purpose of the ACLC is to assess how many word classes (modifiers, auxillary verbs, pronouns, determiners) in different combinations of length and complexity a child is able to understand. The test is limited to assessing a child's comprehension in the presence of pictures. Part A of the ACLC assesses core vocabulary development. Parts B, C, and D test the child's comprehension of an increasing number of critical elements.

Age: Norms available for children ages 3.0 to 6.5. The ACLC may also be appropriate for older children with language delay.

Administration time: Under optimal conditions, the ACLC can be administered in approximately 10 minutes.

Materials: -Test Manual
-Book of 40 test plates (black silhouette drawings)
-Score sheet

Administration: Complete instructions are found on pages 15-17 of the test manual. For all parts of the ACLC, the child is asked to point to the picture which corresponds to the examiner's instructions. For example: "show me the shoe." Part A consists of 10 plates with 5 stimulus pictures on each plate. All 5 stimuli on a plate are presented before going to the next plate. Parts B, C, and D consist of 10 plates each. Only one stimulus is presented for each plate on these parts of the test. Stimulus items are found on the score sheet.

Scoring: Part A: Mark correct responses and total on the score sheet.

Parts B, C, and D: On the score sheet, circle the number corresponding to the picture the child points to. Total the number of correct responses and record on the score sheet. Percentages are then computed for parts B, C, and D.

Information about interpretation of scores is found on pages 17-19 of the test manual.

Reliability and Validity: Reliability data can be found on page 19 of the test manual. The validity of the ACLC has not been reported.

Test: Peabody Picture Vocabulary Test (PPVT) Form a and b

Author: Lloyd M. Dunn

Publisher: American Guidance Service

Purpose: The purpose of the PPVT is to provide an estimate of the subject's verbal intelligence through measuring his receptive vocabulary.

Age: Age norms for the PPVT range from 1.9 years to 18 years. The PPVT was standardized on children ages 2.6 to 19 years.

Administration time: Approximately 10-15 minutes.

Test materials:
- -Spiral bound book containing 150 picture plates (line drawings) 4 drawings per plate.
- -Test manual
- -Individual Test Records

Administration: Rules of introduction and administration of the PPVT are found on pages 6-8 of the test manual. The test requires the individual to point to the picture which best tells the meaning of the stimulus word. Example plates are provided. No oral response is required. Starting points are determined by the age of the individual to be tested. Guidelines appear at the top of page 2 of the score sheet.

Basal and ceiling scores are established in administering the test. Basal: 8 consecutive correct responses; Ceiling: 6 errors in 8 consecutive responses.

Stimulus words and correct response numbers are found on pages 2 and 3 of the score sheet. For each test item, write the picture number which the subject points to in the appropriate space.

Scoring: Errors are recorded by making oblique lines through the geometic shapes in the score sheet. The total raw score is the number of correct responses. Mental Age, standard score equivalent (IQ), and percentile equivalent can be derived from the raw score using Tables 2-6 in the Test manual.

Reliability and Validity: Extensive information concerning reliability and validity studies can be found on pages 3-42 of the test manual.

Test: Token Test for Children (Denver Norms)

Authors: Wilma Jean Hahn, Marlene Weiss

Purpose: The Token Test is a receptive language test which assesses a child's ability to listen and follow directions of increasing length and complexity. It also evaluates a child's understanding of spatial relationships, time conditionals and prepositions.

Age: The Denver Norms are available for children ages 5 to 10-11 years.

Administration time: Expected administration time is approximately 20 minutes. Average response time is 15 minutes.

Materials:
- -20 plastic tokens (5 colors, 2 shapes, 2 sizes)
- -Score sheet
- -Administration and scoring information

Administration: Give the pretest (if indicated) to determine if the child knows the colors, sizes and shapes used in the test. If the child does not pass the pretest, discontinue the test. If the child passes, prepare the tokens for test I and give the instructions which appear on the scoring sheet. Each stimulus should be given only once. If the child makes 8 errors on Part I, discontinue the test. Otherwise, the four remaining parts should be give.

Part I. Use only the large circles and squares
ex.: "touch the red circle"

Part II: Use all 20 tokens
ex.: "touch the big blue square"

Part III: Use only the large circles and squares
ex.: "touch the yellow circle and the red square"

Part IV: Use all 20 tokens
ex.: "touch the little yellow circle and the big green square"

Part V: Use only the large circles and squares
ex.: "after picking up the green square, touch the white circle"

For the test, the tokens are arranged in rows according to the size and shape.

Scoring: Each response is either completely right or wrong. No partial credit is given. A total of 67 points can be obtained on all five parts of the test. The scoring sheet allows for analysis of errors into categories of active agent, color/shape, placement, self-correct, and repeat. Norms are available for children 5 to 10.11 years of age.

Reliability and Validity: This information is not available. The Token Test (Denver Norms) was standardized on 390 lower socioeconomic urban children and 35 middle class children.

Test: Miller-Yoder Test of Grammatical Comprehension
(Experimental Edition)

Authors: John F. Miller, David E. Yoder

Purpose: The Miller-Yoder Test is a picture selection test designed to assess a child's comprehension of grammatical structures which are generally understood by children six years of age.

Age: Children 3 to 6 years of age.

Administration time: Approximately 15 to 20 minutes.

Materials:
- -42 picture plates with 4 pictures on each plate - 2 represent experimental sentences and 2 are distractors
- -2 practice plates
- -Data sheets: Set 1 and 2
- -Comprehension Test results form
- -Summary Score Sheet with age norms

Administration: The rest is begun with the two practice plates (P-1, P-2) each representing 4 practice sentences. The test has five main characters: Sally, John, Mother, Father and Spot. Each main character is named and pointed out to the child. It is important that the child know the five characters. Administer the practice sentences. Example: "Show me, Sally has a dress." If the child is correct, proceed to the rest of the practice items. If the child is incorrect, repeat the sentence and help him find the correct response. Give the next practice sentence and ask the child to point to the picture named. Repeat this procedure until the child understands the task.

Following the practice items, administer the first set of contrasts (42 sentences) in the order they appear on the First Set data sheet. Record the number of the picture the child points to. After the set of plates are presented, they should be presented again (in the same order) using the stimulus sentences that appear on the Second Set data sheet.

Scoring: Transfer the child's responses to the Comprehension Test results form. The child's responses can be compared to the Summary Score Sheet which contains a list of the constructions tested and age norms at which they are normally acquired. The child must respond correctly to all items representing a construction before it can be assumed understands it.

Reliability and Validity: Information regarding Internal reliability and item analysis can be obtained from the article by Nathaniel O. Owings: "Internal Reliability and Item Analysis of the Miller-Yoder Test of Grammatical Comprehension."

Test: Carrow Elicited Language Inventory (CELI)

Author: Elizabeth Carrow

Publisher: Learning Concepts

Purpose: The purpose of the Carrow Elicited is to assess a child's productive control of grammar through sentence imitation tasks. It is designed as a diagnostic test to be used to identify children with language problems.

Age: Norms are available for children ages 3 years to 7.11 years.

Administration Time: Time varies according to the abilities of the child. This is not a timed test.

Materials:
-Scoring/Analysis Form (includes the 52 stimulus items)
-Test manual
-Training tape (to learn scoring procedures)

Administration: Children should be tested individually. The stimulus sentences are presented by the examiner and the child is asked to repeat each sentence. The child's responses are recorded using a tape recorder. The test manual states that the child's responses are transcribed from the tape onto the score form at the end of the test. Complete administration instructions can be found on pages 11-12 of the test manual.

Scoring: Specific scoring instructions can be found on pages 12-20 of the test manual. There is a one-to-one relationship between words and errors. Five types of errors (substitutions, omissions, additions, transportations, reversals) are used in analysing the errors in each of the 12 grammatical categories. Each error is counted as 1 point. The total raw score equals the number of errors. Subscores are also computed for each type of error and grammatical class. Percentile Rank and Stanine scores can be obtained from the raw scores using Tables 9 to 11 (pages 31-45) in the test manual. A verb protocol sheet is available for complete analysis of verb category errors.

Reliability and Validity: Standardization data can be found in the manual of pages 8-10.

Test: Illinois Test of Psycholinguistic Abilities (ITPA)

Authors: Samuel A. Kirk, James J. McCarthy, Winifred Kirk

Publisher: University of Illinois Press

Purpose: The purpose of the ITPA is to provide "a systematic diagnostic device which would tap and differentiate facets of cognitive ability." It is based on Osgood's principles of the communication process and is designed to assess discrepancies among an individual's abilities. The model of the ITPA contains 3 dimensions of cognitive, ability: 1) channels of communication, 2) Psycholinguistic Processes, 3) Levels of Organization.

Description of the Subtests: *Auditory Reception*-designed to assess the ability of a child to derive meaning from verbally presented material by responding "yes" or "no" (verbally or gesturally) to increasingly difficult questions.

Visual Reception-measures the child's ability to gain meaning from visual symbols.

Visual Sequential Memory-assesses the child's ability to reproduce sequences of non-meaningful figures from memory increasing from two to eight figures.

Auditory Vocal Association-taps the child's ability to relate concepts presented orally. The organization process of manipulating linguistic symbols in a meaningful way is tested by verbal analogies of increasing difficulty.

Auditory Sequential Memory-assesses the child's ability to reproduce from memory sequences of digits increasing in length from 2 to 8 digits.

Visual Motor Association-the organizing process in this channel is tapped by a picture association test with which to assess the child's ability to relate concepts presented visually.

Visual Closure-assesses the child's ability to fill in the missing parts in an incomplete picture.

Verbal Expression-assesses the ability of the child to express his own concepts vocally.

Grammatic Closure-assesses the child's abilities to make use of the redundancies of oral language in acquiring automatic habits for handling syntax and grammatic inflections.

Manual Expression-this test taps the child's ability to express himself manually. The child is asked to demonstrate by the use of gestures what to do with objects which are presented pictorially.

Auditory Closure - tests the child's organizing process at the automatic level. The child must fill in the missing parts deleted in auditory presentation and produce a complete word.

Sound Blending-tests the child's organizing process at the automatic level. Sounds of a word are presented at half-second intervals and the child must respond with the appropriate word.

Age: Designed for use with children 2 to 10 years of age.

Administration time: Varies according to the abilities of the child. The following subtests are timed: Visual Sequential Memory, Visual Closure

Materials:
-Examiner's Manual
-Score Book
-Picture Books 1 and 2
-Visual Sequential Memory Booklet
-Chips
-Tray
-Stopwatch
-Five visual closure picture strips
-Red pen or pencil
-Nail, ball, block, envelope, button, hammer

Administration and Scoring: Administration and Scoring instructions for each subtest vary and are found in detail in the examiner's manual (pages 21-88). Instructions are arranged according to subtests. Instructions for recording, profiling, and interpreting the ITPA scores can be found on pages 91-100 of the examiner's manual. Raw scores, Psycholinguistic ages, Psycholinguistic quotients, and Scaled scores are computed for each subtest. These scores are recorded on the last page of the record form. Normative data can be found on pages 102 to 127 of the examiner's manual.

Reliability and Validity: Statistical information about the ITPA can be found in The Development and Psychometric Characteristics of the Revised ITPA by Paraskevopoulos and Kirk.

Test: Porch Index of Communicative Ability in Children (PICAC)

Author: Bruce Porch

Publisher: Consulting Psychologists Press

Purpose: The purpose of the PICAC is to provide a "sensitive and reliable" measurement of a child's general communicative ability which can establish baseline data and measure change over time. The PICAC is based on a model of communication with three input modalities: visual auditory and tactile. Reception, perception and association are the major levels of input processing. The integration process processes the input, stores, and makes decisions about generating an output re-response. The output modalities are gestural, verbal and graphic. The output process involved conceptualization, formulation and expression. The PICAC is useful for comparing the communication abilities of children in terms of the strength and weaknesses of their input and output modalities.

Age: The Basic Battery is for use with children who are functioning educationally at the kindergarten level and below. Children in first grade or higher should be given the Advanced Battery.

Materials:
- -The test format
- -10 pairs of test objects
- -Stimulus cards
- -Score sheets
- -Graphic test sheets
- -black pen
- -watch or clock

Administration time: Total time for administering the entire battery is approximately 1 hour. The subtests are not under time restrictions but the time spent to complete each subtest should be recorded.

Administration: It is necessary that the clinician be very familiar with the test materials, manual and scoring procedures before attempting to administer the PICAC. The Basic Test battery consists of 15 subtests. The Advanced Test battery consists of 20 subtests. Administration procedures are given on pages 2-9 of the test manual. The purpose and instructions for each subtest can be found on pages 25-125.

Scoring: A description of the use of the PICAC scoring system can be found on pages 9-11 of the test manual. The principles of the scoring system are explained in Chapter 2 of the manual, pages 13-21. Scoring notes for each subtest appear in the test manual following a description of the subtest (pages 25-125).

Following administration of the test (during which the individual items are scored), the following scores can be computed: 1) Mean scores for each subtest, 2) Mean scores for gestural, verbal and graphic modalities, 3) General communication level, 4) visual and auditory levels. Instructions for computing these measures appear on page 12 of the test manual.

No norms are available for interpreting the results.

Reliability and Validity: None to date.

The Test of Language Development

Age: 4.0 to 8.11

Authors:
Phyllis Newcomer
Donald Hammill

Subtests-Number:
Semantics (3)
Syntax (3)
Supplemental
Phonology (2)

Expressive	Receptive
Semantics	Semantics
Syntax	Syntax
Morphology	Morphology
Phonology	Phonology

Ordering Address:

Pro-Ed
333 Perry Brooks Bldg.
Austin, Texas 78701

D. Selected Language Programs

Bangs, Tina. *Language and Learning Disorders of the Pre-Academic Child.* New York: Appleton-Century Crofts, 1968.

Cazden, Courtney, Ed. *Language in Early Childhood Education*. Washington: National Association for the Educations of Young Children, 1972.

Coughran, Lila and Betty Liles. *Developmental Syntax Program*. Austin: Learning Concepts.

Dale, Phillip. *Language: Its Structure and Function*. Hinsdale Dryden Press, 1972, 1976.

Dunn, Lloyd, et. al *Peabody Early Experience Kit*. Circle Pines: AGS.

Dunn, Lloyd, et. al. *Peabody Language Development Kits K, I, II, III*. Circle Pines: AGS.

Englemann, Siegfried and Jean Osborn, *Distar Language I & II*, Chicago: SRA.

Fokes, Joann. *Fokes Sentence Builder Kit and Fokes Sentence Expander*. Boston, Teaching Resources.

Fristoe, Macalyne (Ed.) *Language Intervention Systems for the Retarded: A Catalogue of Original Structured Language Programs for Use in the U.S*. Montgomery: State of Alabama Dept. of Education, 1975. Available through: Lurleen B. Wallace Developmental Center, P.O. Box 2224, Decatur, Alabama 36401.

Hatten, John T. and Pequetti W. Hatten. *Natural Language: A Clinician-Guided Program for Parents of Language-Delayed Children*. Tucson: Communication Skill Builders, 1974.

Karnes, Merle. GOAL: Games Oriented Activities for Language. Springfield (Mass): Milton Bradley.

Karnes, Merle. *Helping Young Children Develop Language Skills*. Reston: CEC.

Kent, Louise. *Language Acquisition Program for the Retarded or Multiply Impaired*. Champaign (Ill.): Research Press, 1974.

Mann, Philip H. and Patricia Suiter. *Handbook in Diagnostic Teaching: A Learning Disabilities Approach*. Boston: Allyn and Bacon, 1974.

McDonald, J. D. and Blott, J. P. "Environmental language intervention: the rationale for a diagnostic and training strategy through rules, context, and generalization." Journal of Speech and Hearing Disorders, 39, 244-256, (1974).

McDonald, J.D., Blott, J.P., Gordon, K. Spiegel, B. and Hartmann, M. "An experimental parent-assisted treatment program for pre-school language-delayed children." Journal of Speech and Hearing Disorders, 39, 396-415 (1974).

Monsees, Edna. Structured Language for Children with Special Language Learning Problems. Washington: Children's Hearing and Speech Center, 1972

Muma, John, "Language Intervention: Ten Techniques," Language Speech and Hearing Services in the Schools. 1:5 p. 7-17 (1971).

Novakovich, Harriet, et al. Target on Language. Bethesda: Christ Church Child Center. Highly recommended: This is a guide based on the ITPA and offers suggested activities categorized both by disability, e.g. auditory reception, etc., and curriculum area, e.g. toys, colors, etc. The most recent revision also includes a grammar workbook.

Willette, Rosemarie, Brenda Jackson and Irwin Peckings. Auditory Perception Training. Niles (Ill.) DLM.

Wright, J. et al. Concepts for Communication I, II, III. Niles: DLM.

Wilson, Mary. Wilson Initial Syntax Program and Wilson Expanded Syntax Program. Cambridge: Education Publishers, 1972

E. Resources For Remediation of Language Disabilities In Adolescents

Boning, Richard, Specific Skill Series. Baldwin, New York: Barnell Loft, Ltd. 1976.
(Use the appropriate level of this series orally before or instead of having the student read the exercises.)

Comprehension Bulletin 246, Montgomery County Public Schools.
(This material is easily adaptable for auditory comprehension work.)

Herman, Ogawa and Olsen, What to Do About Bill? A Manual for Use with Secondary Students with Learning/Language Disabilities. Tucson, Arizona: Communication Skill Builders, Inc. 1976.
(This is an excellent manual designed to aid in the remediation of comprehension, spelling, written and oral expression and oral reading problems.)

Language Development Materials, Teaching Resources Corporation, 100 Boylston Street, Boston, Massachusetts.
(There are many excellent language development materials in their catalog that are appropriate for secondary students. Especially recommended are the Fekes Sentence Builder and the Parts of Speech.)

Wiig, Elizabeth, and Samel, Elearnor, Language Disabilities in Children and Adolescents. Colombus, Ohio: Merrill, 1976.
(This is a solid and thorough book for both assessment and remediation of language disabilities. It is one of the few that considers the problems of the older child.)

F. REFERENCES

1. Speech Pathologist As A Resource Person

In order to understand the contribution of the speech pathologist to language and learning disorders, the following set of references will provide a suitable framework.

Dublinske, S. "Planning for Child Change in Language Development/ Remediation Programs Carried Out by Teachers and Parents," *LSHSS*, 5:4, 10/74, pp. 225-238.

Egland, G. *Speech and Language Disorders: A Guide for the Classroom Teacher*. Englewood Cliffs, New Jersey: Prentice-Hall, 1971.

Martin, V.E. "Consulting with Teachers," *LSHSS*, 5:3, 7/74, pp. 176-180.

Navratil, K. and M. Petrasek, "An Approach to Main-streaming Language-Disabled Children in the Elementary School, *LSHSS* 9:1, 1/78, pp. 14-17.

Pickering, M. and P. Kaelber, "The Speech-Language-Pathologist and the Classroom Teacher: A Team Approach to Language Development," *LSHSS*, 9:1, 1/78, pp. 43-50.

Rees, Norma, "The Speech Pathologist and the Reading Process, *ASHA*, 16:5, 5/74, pp. 255-258.

Seitz, S. and L. Terdal, "A Modeling Approach to Changing Parent-Child Interactions," *Mental Retardation*, 10:3, pp. 39-43 (1972).

Simon, C. Cooperative Communication Programming: A Partnership Between the Learning Disabilities Teacher and the Speech-Language Pathologist, *LSHSS*, 8:3, 7/77, pp. 188-200.

Yoder, D. and D. Tande, "Selected Bibliography," *LSHSS*, 5:4, 10/74, pp. 263-269.

2 Normal Language Development

It is also important to understand what "normal" language development is considered to be prior to an understanding of deviant language development. These references will provide a framework for both areas of concern.

Bangs, Tina. Languages and Learning Disorders of the Pre-Academic Child. New York: Appleton-Century Crofts, 1969.

Bar-Avon, Aaron and Werner F. Leopold, Eds. Child Languages: A Book of Readings. New Jersey: Prentice Hall, 1971.

Berry, Mildred. Language Disorders of Children: The Bases and Diagnoses. New York: Appleton-Century Crofts, 1969.

Berry, Mildred and Jon Eisenson. Speech Disorders: Principles and Practices of Therapy. New York: Appleton-Century Crofts, 1956.

Dale, Phillip. Language Development: Structure and Function. Hinsdale (Illinois), 1972, Dryden Press.

Gallagher, James, Ed. The Application of Child Development Research to Exceptional Children. Reston (Virginia): CEC, 1975.

Hatten, John T. and Perquetti W. Hatten. Natural Language: A Clinician Guided Program for Parents of Language Delayed Children.

Irwin, John V. and Michael Marge, Eds. Principles of Childhood Language Disabilities. New York: Appleton-Century Crofts, 1972.

McNeill, David. The development in language. In P.H. Mussen (Ed.) Carmichael's Manual of Child Psychology Vol. 1 (3rd Ed.) New York: Wiley, 1970, pp. 1061-1101.

Mental Retardation. 10:2, April, 1972. (entire issue devoted to communication)

Myklebust, Helmer. Auditory Disorders in Children: A Manual for Differential Diagnosis. New York: Grune and Stratton, 1954.

Pushaw, David R. Teach Your Child to Talk. New York: Cebco Standard Publishers, 1956.

Sander, Erik. "When are Speech Sounds Learned?" in Journal of Speech and Hearing Disorders. 37:1 2/72, pp. 55-63.

Schiefelbusch, Richard L. and Lyle L. Lloyd, Eds. Language Perspectives-Acquisition, Retardation and Intervention. Baltimore: University Park Press, 1974.

Strong, Alice H. Syntax, Speech and Hearing. New York: Grune and Stratton, 1972.

3. Deviant Language Development

It is also important to understand what "normal" language development is considered to be prior to an understanding of deviant language development. These references will provide a framework for both areas of concern.

Baltaxe, Christiane and James Q. Simmons III, "Language in Childhood Psychosis: A Review," Journal of Speech and Hearing Disorders, 40:4, Nov., 75, pp.439-459.

Johnson, Doris and Helmer Myklebust. Learning Disabilities. New York: Grune and Stratton, 1967.

Kirk, Samuel and Winifred Kirk. Psycholinguistic Learning Disabilities: Diagnosis and Remediation. Urbana (Illinois): University of Illinois Press, 1971.

Leonard, Laurence E. "What is Deviant Language?" Journal of Speech and Hearing Disorders, 37:4 Nov. 72, pp. 427-447.

______________________. "Developmental Considerations in Management of Language Disabled Children," Journal of Learning Disabilities, 8:4, April, 1975, pp. 232-236.

McGinnis, Mildren A. Aphasic Children. Washington: Alexander Graham Bell Association for the Deaf, 1963.

Monaco, Joan L. and Zaslow, Elinor L. Hey, I Got Sump 'n to Tell You an' it Cool. Rockville: MCPS Board of Education, 1972.

Schiefelbusch, Richard L. Language of the Mentally Retarded. Baltimore: University Park Press, 1972.

Travis, Lee Edward, Ed. Handbook of Speech Pathology and Audiology. New York: Appleton Century-Drofts, 1971.

Wallach, Geraldine and Saron Goldsmith, "Language Based Learning Disabilities: Reading is Language Too!" Journal of Learning Disabilities, 10:3, March, 1977, pp. 178-183.

SECTION FOUR

I. Data Collection-Measuring Growth in Education

A. Measuring Growth In Education

The basic problem involved in the measurement of pupils' academic growth has been in the selection of difference or gain scores to indicate that growth has taken place in individual cases. However, the literature on gain scores (Cronbach and Furby, 1970; Lord 1956, 1963; McNemar, 1969; Webster and Bereiter, 1963) indicates that difference on gain scores are unreliable and therefore should not be used in educational evaluation.

In assessing pretest - posttest gain, the central issue is the purpose for which the scores are to be used. Reynolds and Gentile (1978) distinguish between the purposes of prediction and selection, and the purposes of teaching and program evaluation. In the case of prediction and selection, Reynolds and Gentile feel that the problem is to obtain a stable differentiation and ranking of individuals so that cut-off scores yield the smallest proportion of misclassifications. Obviously classification scores waste both human and material resources.

When one is viewing teaching and program evaluation, it is not essential to have stable rankings of individuals. The concern is having each student show progress through a program without having to make comparisons to other students. The variable of concern is the time taken to learn (learning rates) instead of differences in test scores. One can think in terms of criterion referenced tests and/or mastery learning, independent of the skewness of the disabilities. Thus the tests may be quite reliable, despite having non-normal distribution.

Individual gain scores should not be used to discriminate among individuals in terms of the amount gained (those with the greatest gain receive the highest grades). The reliability of these individual gain scores are almost always in the middle of the reliability scale value. Cooley and Lohnes (1976) point out that student characteristics often account for the largest portion of the varience in achievement measures which has the net effect of decreasing the reliability of gain scores.

If the interest of the educator is in discriminating among students rather than individuals, observations may be gathered on individuals at two points in time to provide information about the efforts of various educational treatments. Educators should appropriately evaluate their treatments of programs in terms of mean changes. While gain scores are, in general, too unreliable to be used to discriminate among individuals, they may legitimately be used to construct reliable weakness of treatment effectiveness.

Defects in Using Difference Scores

1. Difference scores typically have a negative correlation with the pretest.
2. Difference scores have low reliability, therefore it is quite risky to make any important decisions about individuals on the basis of gains from pre- to post- testing periods.
3. There is a need for a common scale and trait at pre- and post testing periods. For example, if arithmetic test A was used as the pre-measure and arithmetic test B as the post-measure, it might be forgotten that the units of the two tests are unequal. Do the tests both measure the same constructs at the two points in time?

Residual Scores

1. A residual score is a corrected score that has zero correlation with the pretest.
2. A residual score is a way of singling out individuals who have gained more or less than expected.
3. Residuals do not give an advantage to persons with certain values of the pretest scores whereas difference scores do.
4. However, residual scores, like difference scores, tend to be unreliable. Residual are usually of most interest in situations where the pre-post correlation is large relative to the rehabilities of the parts.

Estimated True Change

1. In estimating "true" change, one is estimating the change that would be obtained if there were no errors of measurement.
2. In the case of a single measure, there is a perfect correlation between the estimated true score for that measure and the observed score. Hence, for most practical purposes, the observed score serves just as well as the estimated true score.
3. Whenever 2 or more measures are available, the estimated true score will have less than a perfect correlation with the observed score of the measure.
4. It is possible to other estimates of true gain by using multiple regression procedure.

Recommendations

1. Richards (1975) concludes that simple difference scores are as good as the more complicated methods in that individuals are ordered about as accurately by the simple difference scores as by the more complicated methods. (N.B. depends on equal pre- test and post-test reliabilities.)
2. Where appropriate, regression analyses that treat the pre-test no differently from other independent variables, and the post-test as the dependent variable avoid many of the difficulties that are introduced by gain scores.

We are grateful to Dr. Robert Algozzine and "Exceptional Children" for their permission to utilize the following article entitled "A Statistical Interpretation Primer for the Practioner" in this Handbook.

B. A Statistical Interpretation Primer for the Practitioner (Tests of Means)

BOB ALGOZZINE

Abstract Interpretation of research articles need not be the domain only of statisticians and educational researchers. A basic understanding of what to look for in an article that compares group performance averages is presented here. One *t* test and one *F* ratio are discussed with regard to their significance as cues to interpretation of standard statistical analyses. It is anticipated that the knowledge to be gained by approaching research reports from this perspective will far outweigh the effort spent to develop the interpretative skills.

PREHM (1976) suggested that educational practitioners learn to interpret educational research reports so that knowledge presented in those reports would not lose its proper impact. The intent and purpose of this article is to lead classroom teachers and other educational practitioners through the interpretive jungle typically presented by journals that deal in research articles. It is not designed to be a statistical minicourse or a watered down approach to data analysis. It will facilitate practitioners in reading and interpreting research reports that present data analysis procedures designed to measure changes in average performances of groups.

Basic Research Design

Educational researchers design experiments in order to attempt to demonstrate that a relationship occurs as a result of some combination of independent variables. Independent variables are thought to be under the control of the experimenter or are attributable to subjects in an experiment (e.g., sex, appearance).

The effects of independent variables are measured with regard to a dependent variable in which the experimenter wants to indicate change. The change is interpreted according to the probability of it occurring by chance. If a principal randomly selected two groups of 15 fourth graders and measured their reading achievement, the averages for the two groups would probably be different. It could be said that this difference occurred by chance, since there was no systematic reason for it. It can be thought of as a meaningful difference if it oc-

BOB ALGOZZINE *is Assistant Professor, Department of Special Education, University of Florida, Gainesville.*

curs beyond the probability accepted for chance occurrences. Statisticians have provided ways to test whether certain values differ by more than chance variation in the scores; educational researchers use them, and practitioners have to interpret them.

The t Test

In a typical experiment, subjects would be assigned to conditions. These would be referred to as the levels of the independent variables. For example, 15 students might receive a sight word program; another 15 might serve as a control group by receiving regular programing. The levels of the independent variable that the experimenter controls are the types of programing. The dependent variable would be some form of reading performance that the experimenter wanted to use as a measure of program effectiveness. It could be the number of new words learned from a previously unknown list, or the retention of new words, or some reading test performance. Once the subjects have received the programs for a designated period of time, the experimenter must represent the scores on the dependent measure (administered after the programing) so that the two groups can be compared.

Because it is expected that individuals within a group will not all score the same on the dependent measure, researchers are typically interested in group statistics rather than individual score analyses. The mean (average) for the sight word group could be compared to the mean (average) for the regular programing group. One procedure that is often used to determine if two group means are different (beyond chance) is the t test (Games & Klare, 1967; Tuckman, 1972.) (Practitioners interested in "cookbook" approaches to calculating any of the tests discussed in this paper are referred to the texts listed as references.)

Interpretation of the t test is straightforward. The test indicates whether the average performances of two groups of subjects were different by more than what might be expected by chance. If an article reports a t of 5.04 ($p < .05$), this tells the reader that the groups' performance averages (means) were different beyond the degree that might be expected 5 times out of 100 ($p = .05$). A probability (p) less than .05 ($< .05$) indicates the obtained difference between the group means could be expected to occur less than 5 times in 100 by chance. If the outcome of an experiment could be expected less than 1 time in 100, the probability would be reported as ($p < .01$). An obtained t of 7.25 for the difference between the mean ($\bar{X} = 22.47$) for the sight word group and the mean ($\bar{X} = 13.87$) for the regular programing group would indicate that the sight word group had performed better (i.e., received higher test scores on the dependent measure).

The magnitude of the obtained t statistic is a function of several different factors: the actual difference between the means being compared, the variability of the scores around that mean, and the actual number of values used to compute the mean. The critical value of the t statistic (reflected in the probability level), obtained by the researcher from standardized tables, allows comparisons of t tests for different means, different amounts of variability, and different numbers of subjects. It is important to note, however, that the t test reflects more than just differences between means. The informed reader of research should be concerned with whether the reported differences between means are meaningful in addition to being *significant*; statistical significance, again, is a function of a variety of factors (e.g., mean differences, variability, etc.) and should not be misconstrued as indicative of *importance*.

The information obtained from this type of analysis might be used to decide whether one form of programing would be better for a particular group of children than another. When decisions are made between two alternatives, a t test is often used to facilitate the process. Of course, it is assumed that the researcher has appropriately calculated the test relative to the type of data and conditions that were required by the experiment. It is also assumed that extraneous causes for the differences have been controlled and that any critical assumptions basic to the test have not been violated.

Analysis of Variance

It is sometimes necessary for an experimenter to test the effects of more than two programs or to examine the effects of more than two levels of an independent variable. In this case, it would be inappropriate to do multiple t tests; more appropriate would be a statistical procedure designed to measure performance differences in more than two groups. The analysis of variance (ANOVA) procedure (Games & Klare, 1967; Tuckman, 1972) enables the effects of treatments to be measured similarly to the t test procedure.

Analyses of variance come in many varieties, usually dependent upon the number of independent variable effects being measured. The most elementary is the one factor ANOVA. *Factor* is used to refer to the independent variable in the experiment. An example might be an experiment in which 15 subjects were randomly assigned to one of three reading programs. The independent variable (reading program) has three levels (type of program) in which a group of subjects will receive scores on the dependent variable. An experimenter would be interested in determining if there was a difference within the group of three means. The difference might occur between the first and second group, or between the first and third group, or between the second and third group. It is the experimenter's responsibility to determine in which set or sets of means the difference has occurred.

The scores would probably be reported in a fashion similar to that presented in Table 1. The group means ($\bar{X}$) are indicated, as is a measure of group variability *(s)*; also indicated is the analysis of variance summary table. Interpretation of the information presented is straightforward. The *F* ratio ($F = 43.78, p < .05$) is greater than would be expected by chance (5 times out of 100) and indicates that there is *at least* one difference between a set of two of the means being studied. Either the sight word group differs from the control group, or the sight word group differs from the phonics group, or the control group differs from the phonics group, or some combination of these differences has occurred. A significant *F* ratio is a cue to the experimenter to analyze the data further to determine what specific differences have occurred. Additional tests are necessary, and their results are typically reported in the text or by an underlining technique.

An illustration of a common underlining procedure is presented in Table 2: nonsignificant mean differences are underlined, others are not. The regular programing group and the group that received phonics programing did not differ from each other; however, the group that received the sight word approach was significantly ($p < .05$) higher than both of them. These results would support using the sight word approach with groups of children who were *similar* to those used by the experimenter in the study.

TABLE 1

Means, Standard Deviations, and Analysis of Variance Summary Table for Reading Program Comparisons

Regular programing control	*Sight word approach*	*Phonics approach*
$\bar{X} = 13.87$	$\bar{X} = 22.47$	$\bar{X} = 13.40$
$s = 1.41$	$s = 4.21$	$s = 2.30$

Source	*MS*	*df*	*F*
Type of program	390.96	2	43.78*
Error	8.93	42	

Note. Score range = 0 to 30.
*$p < .05$.

TABLE 2

Results of Followup Analysis of Reading Program Group Differences

Sight word approach	*Regular programing*	*Phonics programing*
22.47	13.87	13.40

One factor ANOVA's are differentiated generally by the number of means (i.e., levels of the independent variable) being compared. It is also possible to arrange treatments in selective combinations or to observe the effects of one variable on another. This is called multifactor ANOVA; the most simple is a two factor analysis of variance. The term *factor* is again used to refer to the independent variable(s) being compared.

If the experimenter in the example was interested in comparing boys' and girls' performance in the three reading programs, a two factor ANOVA would be appropriate. Some possible outcomes of such an experiment might be that boys did better than girls no matter what program they had been assigned to as a group member. This would be referred to as a *main effect* for sex. The sight word program could be better than the other two programs regardless of the sex of the child. This would be referred to as a *main effect* for program. It could also be that a particular program was better for children of a particular sex. This would be referred to as an *interactive effect* or a *simple effect*. The *F* ratios from the two factor ANOVA provide the experimenter and reader with cues as to which of the possible outcomes has occurred.

A two factor analysis of variance summary table is presented in Table 3. Significant *F* ratios are indicated for the sex effects ($F = 246.55$, $p < .05$; and for the program effects ($F = 82.06$, $p < .05$). The interpretation of the sex effect can be accomplished without further analysis, since there are only two means to compare: one for the boys' performance and one for the girls' performance, regardless of the type of program in which they had participated. The significant *F* ratio tells the experimenter that the two means are different. Such an effect would probably be reported in the text similarly to the results of a *t* test or one way ANOVA.

TABLE 3

Summary Table for Two Factor Analysis of Variance

Source	*MS*	*df*	*F*
Sex of student	2443.98	1	246.55*
Type of program	813.40	2	82.06*
Sex X program type	0.77	2	0.08
Error	9.91	84	

*$p < .05$.

The group effect must be followed up with another analysis similar to that indicated in the previous example. The significant F ratio suggests that there is *at least* one difference between the sets of two means being studied. In this case, it is the three means that represent the subjects' performance in the three treatment programs, without differentiating those responses by sex. The experimenter must conduct additional analyses similar to those that follow the significant one way ANOVA and also report them. Again, the interpretation and discussion should focus on which program was more or less effective and what practical significance it should have for programing.

Interactive Effects

It is possible for the effects of one independent variable to differ from level to level of the other independent variable. This is often referred to as an *interaction* of effects. It is important to note that in a two factor analysis of variance, a significant *F* ratio for the interaction effect *precludes* interpretation of other *F* ratios.

The means, standard deviations, and analysis of variance summary table for a significant interaction effect example are presented in Table 4. Significant main effects are also indicated; however, these are not interpreted due to the *higher level* (involving more variables) effect. It is the experimenter's responsibility to analyze the simple effects. In the example, there are six means, which result in 15 different sets of means that must be compared. The results of this followup comparison would be reported in the text or by an underlining technique. In this case, girls performed better than boys in all programs and performed best when they had been exposed to the phonics approach. The boys performed best when they re-

TABLE 4

Means, Standard Deviations, and Analysis of Variance for an Interaction Effects Example

Group		*Regular programing control*		*Sight word approach*		*Phonics approach*
Boys	*X* =	13.87	*X* =	22.47	*X* =	13.40
	s =	1.41	*s* =	4.21	*s* =	2.30
Girls	*X* =	23.93	*X* =	23.93	*X* =	33.13
	s =	1.44	*s* =	2.54	*s* =	4.69

Source	*MS*	*df*	*F*
Sex of student	2443.98	1	246.55*
Type of program	187.81	2	18.94*
Sex X program type	626.37	2	63.19*
Error	9.91	84	

Note Score range = 0 to 30.
*$p < .05$.

ceived the sight word approach. This type of selective results might lead to differential reading instruction programs as a function of a child's sex.

Two factor interactions may be very complicated and difficult to interpret, or they may be simple and easily interpreted. The experimenter and editorial reviewers often attempt to present complex interactions in easily understandable formats. A practitioner should be able to identify when it is appropriate to discuss an interaction and then be able to read and follow the narrative presentation of the simple effects followup results.

Conclusion

It is possible to examine the effects of three factors simultaneously. Three main effects and four interactions then become possible outcomes. Obviously, the *F* ratios again provide cues as to which of the effects should be analyzed further and what results of followup analyses should be presented. The intent and purpose of this paper has been to present basic interpretative procedures for understanding tests of means. Multifactor ANOVA's of three or four factors do not represent basic analyses; however, the interpretative sequence that would be followed is similar to that for the two factor analysis (Huck, Cormier, & Bounds, 1974). First, the highest level of interaction is interpreted, then the next highest levels, and then any main effects. Again, it is important to note that any factor involved in a higher level interaction is not interpreted at its lower levels.

Statistics, data analysis, and article interpretation are all skills that involve general understanding and require much practice. It is anticipated that the procedures presented in this paper will enable practitioners to begin to develop the skills necessary to read and make sense out of professional literature. These skills, with experience, will help teachers and school personnel to make meaningful decisions about research alternatives that are presented in a format they can understand.

The entire interpretative issue for ANOVA and *t* test revolves around knowing what the test statistics (*F* ratios and *t*'s) mean, not how they were obtained. Interpretation of statistical tables simplifies to a process of determining which *F* ratio or *t* statistic is significant ($p < .05$ or $P < .01$) and then reading what the results of any followup procedure may have been. Given this basic skill and interpretative knowledge, statistical reports will no longer represent jungles of tangled facts and lost issues but should become clear pathways to applied knowledge.

References

Games, P., & Klare, G. *Elementary statistics: Data analysis for the behavioral sciences.* New York: McGraw Hill, 1967.

Huck, S., Cormier, W., & Bounds, W. *Reading statistics and research.* New York: Harper & Row, 1974.

Prehm, H. Special education research: Retrospect and prospect. *Exceptional Children,* 1976, *43,* 10–19.

Tuckman, B. *Conducting educational research.* New York: Harcourt Brace Jovanovich, 1972.

C. REFERENCES

Bloom, B.S. "Time and Learning," American Psychologist, 1974, 29, 682-688.

Carver, R.P. "Two Dimensions of Tests: Psychometric and Edumetric," American Psychologist, 1974, 29, 512-518.

Cooley, W.W., & Lohnes, P.R. "Evaluation Research in Education," Theory, Principles, and Practice. New York: Irfington Publishers, 1976.

Cronbach, L.J., & Furry, L. "How Do We Measure 'Change' - Or Should We?" Psychological Bulletin, 1970, 74, 68-80.

Guilford, J.P. "Psychometric Methods," New York: McGraw-Hill, 1954.

Keller, F.S. "Goodby, Teacher"...Journal of Applied Behavior Analysis, 1968, 1, 79-89.

Linn, R.L. and Sliade, J.A., "The Determination of the Significance of Change Between Pre- and Post Testing Periods," Review of Education Resource. 1977, 47, 1, 121-150.

Livingston, S.A. "Criterion-Referenced Applications of Classical Test Theory," Journal of Educational Measurement, 1972, 9, 13-26.

Lord, F.M. "The Measurement of Growth," Educational and Psychological Measurement, 1956, 16, 421-437.

Lord, F.M. "Elementary Models for Measuring Change," In C.W. Harris (Ed.), "Problems in Measuring Change," Madison, WI: University of Wisconsin Press, 1963.

McNemar, Q. Psychological Statistics: Fourth Edition. NY: John Wiley & Sons, 1969.

Nunally, J.C., Psychometric Theory, New York: McGraw-Hill, 1967.

Overall, J.E., & Woodward, J.A. "Unreliability of Difference Scores: A Paradox for Measurement of Change," Psychological Bulletin, 1975, 82, 85-86.

Popham, W.J. "Criterion Referenced Measurements: An Introduction," Englewood Cliffs, NJ: Educational Technology Publishers, 1971.

Reynolds, C. and Gentile, J.R. "Measuring Growth in Education," Psychology in the Schools, 1978, Vol. 15, 1, pp. 62-65.

Richards, J.M., "A Simulation Study of the Use of Change Measures to Compare Educational Programs," American Education Resource. J., 1975, 12, 299-311.

Webster, H. & Bereiter, C. "The Reliability of Changes Measured by Mental Test Scores," In C.W. Harris (ed.) "Problems in Measuring Change," Madison, WI: University of Wisconsin Press, 1963.

SECTION FIVE

X. APPENDICES

A. Films on Learning Disabilities

Adolescence and Learning Disabilities. Describes the tasks of adolescence and relates them to the learning-disabled adolescent. Color/sound, 40 minutes. Lawren Producations, Inc, P.O. Box 1542, Burlingame, Calif. 94010.

Anyone Can. Teacher training guide for a program of motor development. Sound/color, 30 minutes. Bradley Wright Films, 309 N. Duane Ave., San Gabriel, Calif. 91775.

Bright Boy: Bad Scholar. Illustrates the diagnosis and treatment of children with learning disabilities. Sound/black and white, 28 minutes. Contemporary Films, McGraw-Hill, 330 W. 42nd St., New York, N.Y. 10036.

Early Recognition of Learning Disabilities. Shows children with learning disabilities in their early school years. Interviews with parents and teachers. Sound/color, 30 minutes. For free loan, write to: National Medical Audiovisual Center, (Annex), Station K, Atlanta, Ga. 30324. For purchase: National Audiovisual Center, National Archives and Records Service, Washington, D.C. 20409.

Help in Auditory Perception. Overview of problems in auditory perception, and description of materials and tasks assigned to students for independent study. Sound/black and white, 36 minutes. New York State Education Department, Division for Handicapped Children, Special Education Instructional Materials Center, 800 North Pearl Street, Albany, N.Y. 12204.

Help in Visual Perception. Presents the activities involved in increasing visual memory in a child whose "eyes play tricks" on him. Sound/black and white, 30 minutes. New York State Education Department, Division for Handicapped Children, Special Education Instructional Materials Center, 800 North Pearl Street, Albany, N.Y. 12204.

If A Boy Can't Learn. Deals with a seventeen-year-old high school student with a learning disability. Sound/color, 28 minutes. Lawren Productions, Inc., P.O. Box 1542, Burlingame, Calif. 94010.

I'm Not Too Famous At It. Shows the importance of knowing what children can and cannot do and exhibits the many and varied behavioral problems associated with learning disabilities. Sound/black and white, 28 minutes. Contemporary Films, McGraw-Hill, 330 W. 42nd Street, N.Y.,N.Y. 10036.

I'm Really Trying. A segment of the "Marcus Welby, M.D.," television show about a learning disabled boy. Sound/color, 52 minutes. ACLD, 220 Bownsville Rd., Pittsburgh, Pa. 15210.

The Learning Series. Four films showing graphic episodes of children attempting to cope with life tasks for which they are not ready. Sound/black and white, 28 minutes. Contemporary

Films, McGraw-Hill, 330 W. 42nd St., New York, N.Y. 10036.

Motor Development I. Deals with the early development of motor sequences in children. Sound/black and white, 51 minutes. N.C. Kephart, Film Coordinator, Special Education Section, Purdue University, SCAX, Lafayette, Ind. 47907.

Motor Development II. Continuation of Motor Development I showing examples of differentiation, mostly abnormal, with comparisions in movement. Sound/black and white, 50 minutes. (Same source as Motor Development I.)

Movement Exploration. Demonstrates the techniques of various motor skills. Sound/color, 22 minutes. Documental Films, 3217 Trout Gulch Rd., Aptos, Calif. 95003.

A Movigenic Curriculum. Explains and experimental motor curriculum. Shows exercise for various areas of motor development. Sound/black and white, 41 minutes. Ray Barsch, SEIMC, 55 Elk St., Albany, N.Y. 12224.

Public School Program for Learning Disabilities. Film of a self-contained classroom of young children with various neurological learning disorders. Sound/color, 16 minutes. Office of Educational Service Region of Cook County, 33 W. Grand Ave., Chicago, Ill. 60610.

Revised Illinois Test of Psycholinguistic Abilities. A demonstration of the administration of the various subtests of the revised Illinois Test of Psycholinguistic Abilities. Sound/black and white, 43 minutes. University of Illinois Visual Aids Services, Urbana, Ill. 61820.

The School Daze of the Learning Disability Child. Explores and explains the basic handicaps of the learning-disabled child, how they create interpersonal problems at home and school, and what might be done to overcome their effects. Film sound strip, two part, 45 minutes. Alpern Communications, 220 Gulph Hills Rd., Radnor, Pa. 19087.

The Sensitoric Readiness Program. Illustrates the academic implications of training in motor skills. Sound/black and white, 22 minutes. Pathway School Resource Center, Box 181, Norristown, Pa. 19087.

Thursday's Children. Presents three major areas: (1) characteristics (especially sensory-motor problems), (2) diagnostic evaluation, and (3) educational programing. Sound/color, 32 minutes. Swank Motion Pictures, Inc., 201 South Jefferson Ave., St. Louis, Mo. 63166.

Visual Perception and Failure to Learn. Uses the Frostig Test of Visual Perception to demonstrate the relationship between disabilities in visual perception and various difficulties in learning and behavior. Sound/black and white, 20 minutes. Churchill Films, 662 North Robertson Blvd., Los Angeles, Calif. 90069.

A Walk in Another Pair of Shoes. Narrator Tennessee Ernie Ford explains to children some of the problems encountered by learning-disabled children. Sound/color filmstrip, 181/2 minutes. CANHC Film Distribution, P.O. Box 1526, Vista, Calif 92083.

Why Billy Couldn't Learn. Demonstrates problems, diagnosis, and education of children with neurological handicaps. Sound/color 40 minutes. Califormia Association for Neurologically Handicapped Children, 6742 Will Rogers St. Los Angeles, Calif. 96405.

B. JOURNALS

- American Vocational Journal (secondary), Vocational Association, Inc., 1510 H Street N.W., Washington, D.C. 20005.
- Educational Leadership (contemporary programs, issues, problems), Association for Supervision and Curriculum Development, 1201 16th Street N.W., Washington, D.C. 20036.
- Exceptional Children. Publication of the Council for Exceptional Children. 1920 Association Dr., Reston, Va. 22091.
- The Exceptional Parent. P.O. Box 101, Boston, Mass. 02117.
- Focus on Exceptional Children. 6635 E. Villanova Place, Denver, Colo. 80222.
- Journal of Learning Disabilities. 101 E. Ontario, Chicago, Ill. 60611.
- Journal of Reading. Published for secondary teachers by the International Reading Association. 800 Barksdale Rd., Newark, Del. 19711.
- Journal of Reading Behavior (all research; all levels), National Reading Conference, Appalachian State University, Boone, North Carolina 18607.
- The Journal of Special Education. 1115 5th Ave., New York, N.Y. 10003.
- Learning The Magazine for Creative Teaching (unusual ideas; issues), Education Today Company, Inc., 530 University Ave., Palo Alto, California 94301.
- Phi Delta Kappan (issues, trends, new programs), Phi Delta Kappa, Eighth Street and Union Avenue, Bloomington, Indiana 47401.
- Reading improvement (innovative ideas for teaching), Project Innovation, 1402 West Capital Drive, Milwaukee, Wisconsin 53206.
- The Reading Teacher (elementary, but with useful ideas for secondary), International Reading Association, 800 Barksdale Road, Newark, Delaware 19711.
- The School Counselor (ideas, issues, trends), American Personnel and Guidance Association, 1607 New hampshire Avenue N.W., Washington, D.C. 20009
- Teaching Exceptional Children. Publication of the Council for Exceptional Children. 1920 Association Dr., Reston, VA. 22091.

C. ORGANIZATIONS AND AGENCIES

-American Association for the Education of the Severely and
Profoundly Handicapped, P.O. Box 15827, Seattle, Washington 98115.

-American Association of Special Educators, 107-20 125th St.,
Richmond Hill, New York 11419.

-American Coalition for Citizens with Disabilities, 1346
Connecticut Ave., N.W., Washington, D.C. 20036.

-Association for Children with Learning Disabilities, 5225
Grace St., Pittsburgh, PA 15236.

-Closer Look: National Information Center for the Handicapped,
Boc 1492, Washington, D.C. 20013.

-Council for Exceptional Children, 1920 Association Drive,
Reston, Virginia 22091.

-The Orton Society, Inc. 8415 Bellona Lane, Towson, Maryland 21204.

-National Institutes of Health:

National Institute of Child Health and Human Development,
Office of Research Reporting, Landow Building, Room B-806
Bethesda, Maryland 20014.

National Institute of Mental Health, 5600 Fishers Lane,
Rockville, Maryland 20857.

National Clearinghouse of Mental Health Information,
Public Inquiries Section, 11400 Rockville Pike,
Rockville, Maryland 20852.

D. PUBLISHERS OF MATERIALS

Academic Therapy Publications, 1539 Fourth St. San Rafael, Calif. 94901
Adapt Press, Inc., 808 West Avenue North, Sioux Falls, S.D. 57104
Addison-Wesley Publishing Co., 2725 Sand Hill Rd., Menlo Park, Calif. 94025
Allyn & Bacon, 470 Atlantic Ave., Boston, Mass. 02210
American Book Co., 450 W. 33 St., New York, N.Y. 10001
American Education Publications, 245 Long Hill Rd., Middletown, Conn. 06457
American Guidance Associates, 1526 Gilpin Ave., Wilmington, Del.
American Guidance Service, Inc. (AGS), Publishers' Building, Circle Pines, Minn. 55014
American Speech and Hearing Association, 9030 Old Georgetown Rd., Washington, D.C. 20014
Ann Arbor Publishers, P.O. Box 338, Worthington, Ohio 43085
Appleton-Century-Crofts, 440 Park Avenue South, New York, N.Y. 10016
Arrow Book Club (Scholastic Book Services), 50 West 44 St., New York, N.Y. 10036
Association for Childhood Educational International, 3615 Wisconsin Ave., N.W., Washington, D.C. 20036.
Baldridge Reading Instructional Materials, 14 Grigg St., Greenwich, Conn. 06830
Bantam Books, Inc., 666 Fifth Ave., New York, N.Y. 10019
Barnell-Loft, 958 Church St., Baldwin, N.Y. 11510
Basic Books, Inc., 10E. 53 St., New York, N.Y. 10022
Bausch & Lomb Optical Co., Rochester, N.Y. 14602
Beckley-Cardy, 1900 N. Narragansett, Chicago, Ill. 60639
Behavioral Research Laboratories, P.O. Box 577, Palo Alto, Calif. 94302
Bell and Howell, 7100 McCormick Rd., Chicago, Ill. 60645
Benefic Press, 10300 W. Roosevelt Rd., Westchester, Ill. 60153
Ben-G'
462 Sagamore Avenue
East Williston, Park P.O. East Williston, New York 11596
The Bobbs-Merrill Co., 4300 W. 62 St., Indianapolis, Ind. 46206
Book-Lab, Inc., 1449 37 St., Brooklyn, N.Y. 11218
Borg-Warner Educational Systems, 7450 N. Natchez Ave., Ill. 60648
Bowmar, Box 3623, Glendale, Calif. 91201
William C. Brown Co., 2460 Kerper Blvd., Dubuque, Iowa 52001
Burgess Publishing, 7108 Olms Lane, Minneapolis, Minn. 55435
California Test Bureau, A Division of McGraw-Hill, Del Monte Research Park, Monterey, Calif. 93940
Center for Applied Linguistics, 1717 Massachusett Ave. N.W., Washington, D.C. 20036
Childcraft Equipment Corp., Inc., 150 East 58th Street New York, N.Y. 10022
Children's Press, 1224 West Van Buren St., Chicago, Ill. 60607

Communication Research Associates, P.O. Box 110012, Salt Lake City, Utah
Consulting Psychologists Press, 577 College Ave., Palo Alto, Calif. 94306
Continental Press, Inc., Elizabethtown, Pa. 17022
Council for Exceptional Children, 1920 Association Dr., Reston, Va. 22091
Craig Corp., 921 W. Artesia Blvd., Compton, Calif. 90220
Creative Playthings, Inc., Edinburg Rd., Cranbury, N.J. 08540
Creative Publications, P.O. Box 10328, Palo Alto, Calif. 94303
Cuisennaire Company of America, Inc., 12 Church St., New Rochelle, N.Y. 10885
A. Daigger and Company, Inc. 159 West Kinzie St., Chicago, Illinois 60610
The John Day Company, Inc., 257 Park Avenue South, New York, N.Y. 10010
Developmental Learning Materials, 7440 N. Natchez Ave., Ill. 60648
Devereau Foundation, Devon, Pa.
Dexter & Westbrook, Ltd., 958 Church St., Rockville Centre, N.Y. 11510
Dick Blick, P.O. Box 1267, Galesburg, Illinois 61401
Doubleday & Co., Garden City, N.Y. 11530
Edmark Associates, 655 S. Orcas St., Seattle, Wash. 98108
Educational Activities, Inc., 1937 Grand Ave., Baldwin, N.Y. 11520
Educational Development Laboratories, A Division of McGraw-Hill, 1121 Avenue of the Americas, New York, N.Y. 10020
Educational Innovations, Inc., 203 North 4th Street Carralltown, Illinois 62016
Educational Performance Associates, 563 Westview Ave., Ridgefield, N.J. 07657
Educational Service, Inc., P.O. Box 219, Stevensville, Mich. 49127
Educational Teaching Aids Division, A. Daigger & Co., 159 W. Kinzie St., Chicago, Ill. 60610
Educational Testing Service, Princetion, N.J. 08540
Educator's Publishing Service, 75 Moulton St., Cambridge, Mass. 02138
Electronic Future, Inc., 57 Dodge Ave., North Haven, Conn. 06473
Essay Press, Box 5, Planetarium Station, New York, N.Y. 10024
Eye Gate House, Inc., 146-01 Archer Avenue, Jamaica, New York 11435
Exceptional Products Corp., Box 6406, Richfield Branch Minneapolis, Minnesota 55423
Fearon Publishers, 6 Davis Dr., Belmont, Calif. 94002
Field Educational Publications, Inc., 2400 Hanover St., Palo Alto, Calif. 94002
Follett Educational Corp., 1010 W. Washington Blvd., Chicago, Ill. 60607
Alvyn M. Freed, 391 Munroe St., Sacramento, Calif. 95825
Garrard Publishing Co., 1607 N. Market St., Champaign, Ill. 61820
General Learning Corp., 250 James St., Morristown, N.J. 07960
Ginn & Co., 191 Spring St., Lexington, Mass. 02173
Globe Book Co., 175 Fifth Ave., New York, N.Y. 10010
Grolier Educational Corp., 845 Third Avenue, New York, N.Y. 10022
Grune & Stratton, 111 Fifth Ave., New York, N.Y. 10003

Gryphon Press, 220 Montgomery St., Highland Park, N.J. 08904
Guidance Associates, 1526 Gilpin Ave., Wilmington, Del. 19800
E.M. Hale & Co., 1201 S. Hastings Way, Eau Claire, Wisc. 54701
J.L. Hammett Company, 165 Water Street Lyons, New York 14489
C.S. Hammond & Co., 515 Valley St., Maplewood, N.J. 07040
Harcourt Brace Jovanovich, Inc., 757 Third Ave., New York, N.Y. 10017
Harper & Row Publishers, Inc., 10 East 53 St., New York, N.Y. 10022
D.C. Health & Co., 125 Spring St., Lexington, Mass. 02173
Marshall S. Hiskey, 5640 Baldwin, Lincoln, Neb. 08507
Holt, Rinehart and Winston, Inc., 383 Madison Ave., New York, N.Y. 10017
Houghton Mifflin Co., One Beacon St., Boston, Mass. 02107
Houston Press, University of Houston, Tex. 77000
Hubbard Press, P.O. Box 105 Northbrook, Illinois 60062
Ideal School Supply Co., 11000 South Lavergne, Oak Lawn, Ill. 60453
Initial Teaching Alphabet Publications, Inc., 6 E. 43 St., New York, N.Y. 10017
Instructional Industries, Inc., Executive Park, Ballston Lake, New York, N.Y. 12019
Instructo Corp. 200 Cedar Hollow Rd., Paoli, Pa. 19301
The Instructor Publications, 7 Bank St., Dansville, N.Y. 14437
International Reading Association, 800 Barksdale Rd., Newark, Del. 19711
The Judy Co., 310 N. Second St, Mineapolis, Minn. 55401
Kenworthy Educational Service, P.O. Box 3031, 138 Allen St., Buffalo, N.Y. 14201
Keystone View Co., 2212 E. 12 St., Davenport, Iowa 52803
LADOCA Publishing Foundation, Inc., East 51st Avenue at Lincoln Street, Denver, Colorado 80216
Laidlaw Bros., Thatcher & Madison Sts., River Forest, Ill. 60305
Language Research Associates, Box 95, 950 E. 59 St., Chicago, Ill. 60637
Learning Concepts, 2501 N. Lamar, Austin, Tex. 78705
Learning Corporation of America, 1350 Avenue of the Americas, N.Y, N.Y. 10019
Learning Research Associates, 1501 Broadway, New York, N.Y. 10036
Learning Resource Division, EDL, 202 Miriam Dr., Lakeland, Fla. 33803
Learning Through Seeing, LTS Bldg., Box 368, Sunland, Calif. 91040
J.P. Lippincott Co., E. Washington Square, Philadelphia, Pa. 19105
Love Publishing Co., 6635 E. Villanova Pl., Denver, Colo. 80222
Lyons and Carnahan Educational Publishers, 407 E. 25 St., Chicago, Ill. 60616
The Macmillan Co., 866 Third Ave., New York, N.Y. 10022
Mafex Associates, Inc., 111 Barron Ave., Johnstown, Pa. 16906
McCormick-Mathers Publishing Co., 450 W. 33rd St., New York, N.Y. 10001

McGraw-Hill Book Co., 1221 Avenue of the Americas, New York, N.Y. 10020
McGraw Hill/Early Learning Paoli, Pa. 19301
David McKay Co., 750 Third Ave., New York, N.Y. 10017
Charles E. Merrill, 1300 Alum Creek Dr., Columbus, Ohio 43216
Milton Bradley Co., 74 Park St., Springfield, Mass. 01101
Modern Curriculum Press, 13900 Prospect Rd., Cleveland, Ohio 44136
William C. Morrow, 105 Madison Ave., New York, N.Y. 10016
The C.V. Mosby Co., 11830 Westline Westline Industrial Dr., St. Louis, Mo., 63141
Motivational Research Inc., P.O. Box 140, McLean, Va. 22101
National Council of Teachers of English, 1111 Kenyon Rd., Urbana, Ill. 61801
National Education Association Publications, 1201 16 St., N.W., Washington, D.C. 20036
National Reading Conference, Inc., Reading Center, Marquette University, Milwaukee, Wisc. 53233
New Readers Press, Box 131, Syracuse, N.Y. 13210
New York Association for Brain Injured Children, 305 Broadway New York, N.Y. 10007
Noble & Noble, Publishers, 1 Dag Hammarskjold Plaza, New York, N.Y. 10017
Northwestern University Press, 1735 Benson Ave., Evanston, Ill. 60201
Open Court Publishing Co., Box 599, 1039 Eighth St., LaSalle, Ill. 61301
Orton Society, 8415 Bellona Lane, Towson, Md. 21204
F.A. Owen Publishing Co., 7 Bank St., Dansville, N.Y. 14437
Parker Brothers, Fifth Avenue Building, 200 5th Avenue New York, N.Y. 10010
Peek Publications, P.O. Box 11065, Palo Alto, Calif. 94303
Perceptual Development Laboratories, 6767 Southwest Ave., St. Louis, Mo. 63143
Playskool, Division of Milton Bradley, Inc., Springfield, Mass. 01101
Phonovisual Products, 12216 Parklawn Dr., Rockville, Md. 20852
Prentice-Hall, Inc., Englewood Cliffs, N.J. 07632
J.A. Preston Corp. 71 Fifth Ave., New York, N.Y. 10003
Priority Innovations, P.O. Box 792, Skokie, Ill. 60076
The Psychological Corp., 304 E. 45 St., New York, N. . 10017
Psychological Test Specialists, Box 1441, Missoula, Mont. 59801
G.P. Putnam Sons, 200 Madison Ave., New York, N.Y. 10016
Rand McNally & Co., P.O. Box 7600, Chicago, Ill. 60680
Random House, 201 E. 50 St., New York, N.Y. 10022
Reader's Digest Services, Educational Division, Pleasantville, N.Y. 10570
Rheem Califone, 5922 Bancroft St., Los Angeles, Calif. 90016
Scholastic Magazine and Book Services, 50 W. 44 St., New York, N.Y. 10036
Science Research Associates, 259 E. Erie St., Chicago, Ill. 60611
Scott, Foresman and Co., 1900 East Lake Ave., Glenview, Ill, 60025
Silver Burdett Co., A Division of General Learning Corp., 250 James St., Morristown, N.J. 07960

The L. W. Singer Co., A Division of Random House, 201 E. 50 St., New York, N.Y. 10022
Society for Visual Education, 1356 Diversey Parkway, Chicago, Ill. 60614
Special Child Publications, 4635 Union Bay Place N.E., Seattle, Wash. 98105
Stanley Bowmar Company, Inc., 12 Cleveland Street, Valhalla, N.Y. 10595
Stanwix House, Inc., 3020 Chartiers Ave., Pittsburgh, Pa. 15204
Steck-Vaughn Co., Box 2028, Austin, Tex. 78767
C.H. Stoeliting Co., 424 N. Homan Ave., Chicago, Ill. 60624
Teachers College Press, Teachers College, Columbia University, 1234 Amsterdam Ave., New York, N.Y. 10027
Teachers Publishing Corp., 22 W. Putnam Ave., Greenwich, Conn. 06830
Teaching Aids, 159 W. Kinzie St., Chicago, Ill. 60610
Teaching Resources Corp., 100 Boylston St., Boston, Mass. 02116
Teaching Technology Corp., 7471 Greenbush Ave., North Hollywood, Calif. 91609
Charles C. Thomas Publisher, 301-27 E. Lawrence Ave., Springfield, Ill. 62717
3 M Visual Products, 3 M Center, St. Paul, Minn. 55101
Tweedy Transparencies, 207 Hollywood Ave., East Orange, N.J. 07018
University of Chicago Press, 5801 Ellis Ave., Chicago, Ill. 60637
University of Illinois Press, Urbana, Ill. 61801
George Wahr Publishing Co., 316 State St., Ann Arbor, Mich. 41808
Webster Division, McGraw-Hill, Manchester Rd., Manchester, Mo. 63011
Weekly Reader Paperback Book Club, American Education Publications, A Xerox Company, 55 High St., Middletown, Conn. 06457
Wenkart Publishing Co., 4 Shady Hill Square, Cambridge, Mass. 02138
Western Psychological Services, 12031 Wilshire Blvd., Los Angeles, Calif. 90025
Western Publishing Education Services, 1220 Mound Ave., Racine, Wisc. 53404
Westinghouse Learning Corp., P.O. Box 30, Iowa City, Iowa 52240
Wheeler Publishing Co., 10 E. 53 St., New York, N.Y. 10022
John Wiley & Sons, 605 Third Ave., New York, N.Y. 10016
Winston Press, Inc., 25 Groveland Terrace, Mineapolis, Minn. 55403
Xerox Education Publication, Education Center, Columbus, Ohio 43216
Zaner-Bloser Co., 612 North Park St., Columbus, Ohio 43215
Richard L. Zweig Associates, 20800 Beach Blvd., Huntington Beach, Calif. 92648

E. TESTS

Arthur Point Scale of Performance Tests, Revised Form II. Psychological Corp., 304 East 45th St., New York, N.Y. 1943.

Auditory Blending Test. Essay Press, Box 5, Planetarium Station, New York, N.Y. 1963.

Ayres Test. Western Psychological Services, 12031 Wilshire Blvd., Los Angeles, CA 90025.

a. Southern California Sensory Integration Tests
b. Sensory Integration and Learning Disorders
c. Southern California Test Battery for Assessment of Motor and Sensory Dysfunction
d. Ayres Space Test
e. Southern California Kenesthesia and Tactile Perception Test
f. Southern California Figure-Ground Visual Perception Test
g. Southern California Motor Accuracy Test
h. Southern California Perceptual-Motor Tests

Basic Schools Skills Inventory (BSSI). Follett Publishing Co. 201 N. Wells St., Chicago, Illinois 60606.

Behavioral Characteristic Progression. Santa Cruz County Office of Education, 701 Ocean Street, Room 200, Santa Cruz, CA. 95060.

Bender Visual-Motor Gestalt Test. Psychological Corp., 304 East 45th St., New York, N.Y. 1962.

Benton Revised Visual Retention Test. Psychological Corp., 304 East 45th St., New York, N.Y. 1955.

California Achievement Test CTB/McGraw-Hill. Del Monte Research Park, Monterey, Ca. 93940.

California Reading Test. California Test Bureau, Del Monte Research Park, Monterey, Ca. 1957 edition, 1963 norms.

Columbia Mental Maturity Scale, (Rev. ed.) Harcourt Brace Jovanovich, 757 3rd Ave., New York, New York. 1959.

Detroit Tests of Learning Aptitude. Bobbs-Merrill, Inc. Indianapolis, In., 46206. 1955.

Diagnostic Reading Test of Word Analysis Skills. Essay Press, Box 5, Planetarium Station, New York, New York. 1959.

Draw-A-Person, Harcourt Brace Jovanovich, 757 3rd Avenue, New York, New York. 1954.

sts (cont'd)

-Durrell Analysis of Reading Difficulty. Harcourt Brace Jovanovich, 750 3rd Avenue, New York, New York. 1955.

-Early Learning System. SPECO Educational Systems, Inc. 1244 Security Drive, Dallas, Texas 75247.

-Frostig Developmental Test of Visual Perception. Consulting Psychological Press, Palo Alto, CA. 1961.

-Full Range Picture Vocabulary Test. Psychological Test Specialists, Missoula, Mt. 1948.

-Gates Primary Reading (1st and 2nd grades); Gates Advanced Primary (2nd and 3rd grades); Gates Reading Survey (3rd-10th). Bureau of Publications, Columbia University, New York, N.Y. 1958.

-Giles, M.T. Individual Learning Disabilities Classroom Screening Instrument: Pre-school, Kindergarten/Adolescent Levels. Learning Pathways, Inc. P.O. Box 1407, Evergreen, Co. 80439.

-Goldman-Fristoe-Woodcock-Test of Auditory Discrimination. American Guidance Service Publishers Building, Circle Pine, Minnesota 55015.

-Goodenough-Harris Drawing Test. Harcourt Brace Jovanovich, 757 3rd Avenue, New York, N.Y. 1963.

-Gray Oral Reading Test. Bobbs-Merrill, 1720 East 38th St, Indanapolis, Indiana. 1963.

-Hiskey-Nebraska Test of Learning Aptitude. University of Nebraska, Lincoln, Nebraska 1966.

-Illinois Test of Pscholinguistic Abilities. University of Illinois Press, 4300 62nd St., Urbana, Illinois 1968.

-Individual Criterion-referenced Testes (ICRT). Educational Development Corporation, Tulsa, Oklahoma.

-Iota Word Recognition. In Monroe, M. Diagnostic Reading Examination. C.H. Stoelting Co., 424 North Homan Avenue, Chicago, Illinois 1931.

-Jansky, J. The Jansky Screening Index. 120 E 89th St., New York, New York 10028

-Keymath Diagnostic Arithmetic Test. Amercian Guidance Service Inc. Publisher's Building, Circle Pines, Mn. 55014.

Tests (cont'd)

-L/D Screen Syllabication Test and Behavior Rating Scale. Region X, Education Service Center, Richardson, Texas.

-Leiter International Performance Scale. Western Psychological Services, 12035 Wilshire Blvd. Los Angeles, Ca. 1948.

-Lincoln-Oseretsky Motor Development Scale. Western Psychological Services, 12035 Wilshire Blvd. Los Angeles, Ca. 1955.

-McCarthy Scale of Children's Abilities. The Psychological Corporation, 757 3rd Ave., New York, N.Y. 10017.

-Meeker-Cromwell Behavior Rating Scale. SOI Institute, 214 Main, El Segundo, Ca. 90245. (Language progression and personality development-affective)

-Meier, J.J., Cazier, V.O., & Giles, M.T. Individual Learning Disabilities Classroom Screening Instrument. Learning Pathways, Inc., P.O. Box 1407, Evergreen, Co. 80439.

-Memory-For-Designs Test. Psychological Test Specialists, Box 1441, Missoula, Mt. 1960.

-Minnesota Pre-School Scale. American Guidance Service, Publishers' Building, Circle Pines, Mn. 1940.

-Mills, R.E. Learning Methods Test (Rev. ed.) The Mills School, Inc., 1512 E. Broward Blvd. Fort Lauderdale, Fl.

-Minnesota Percepto-Diagnostic Test. Western Psychological Services, 12034 Wilshire Blvd., Los Angeles, Ca. 1964.

-Peabody Individual Achievement Test. Amercian Guidance Service Inc. Publisher's Bldg. Circle Pines, Mn. 55014.

-Peabody Picture Vocabulary Test (PPVT). American Guidance Service, Publishers' Building, Circle Pines, Mn. 1959.

-Perceptual Rating Survey Scale. In Kephart, N.C. Slow Learner in the Classroom. Columbus: Charles E. Merrill, 1960.

-Pictorial Test of Intelligence. Houghton Mifflin, 110 Tremont Street, Boston, Ma. 1964.

-Picture Story Language Test. Grune and Stratton, 1965.

-Preschool Attainment Record. American Guidance Service Inc. Publisher's Building, Circle Pines, Mn. 55014.

-Prescriptive Reading Inventory (PRI), CTB/McGraw-Hill. Del Monte Research Park, Monterey, Ca. 93940

Tests (cont'd)

-Purdue Perceptual-Motor Survey. Columbus: Charles E. Merrill, 1966.

-Raven Progressive Matrices. Psychological Corp., 304 East 45th St., New York, N.Y. 1947.

-Slosson Intelligence Test (SIT). Slosson Educational Publication, 140 Pine St., E. Aurora, N.Y.

-Spache Diagnostic Reading Scales. California Test Bureau, Del Monte Research Park, Monterey, Ca. 1963.

-Stanford-Binet Intelligence Scale. Combine L-M Form. Houghton Mifflin, 110 Tremont St., Boston, Ma. 1960.

-Slingerland, B.H., Screening Tests for Identifying Children With Specific Learning Disabilities. Educators Publishing Service, Cambridge, Ma. 02139.

-Wechsler Intelligence Scale for Adults (WISC). Psychological Corp., 304 East 45th St., New York, N.Y. 1949.

-Wechsler Intelligence Scale for Children (WISC). Psychological Corp., 304 East 45th St., New York, N.Y. 1949.

-Wepman's Auditory Discrimination Test. Language Research Associates, 950 East 59th St, Chicago, Illinois. 1958.

-Wide Range Achievement Test. Psychological Corp., 304 East 45th St., New York, N.Y. 1965.

-Vineland Social Maturity Scale. American Guidance Service Inc., Publisher's Bldg., Circle Pines, Mn. 55014.

-Visual-Motor Integration. Follett Educational Corp., 1010 West Washington Blvd. Chicago, Ill. 1967.

-Word Discrimination. In Monroe, M. Diagnostic Reading Examination. C.H. Stoeling Co. 424 Homan Avenue, Chicago, Ill. 1931.

-Zevely, C.R., Survey of Spelling Skills. West Texas State University. Canyon, Texas. 79016.